

**FINAL
FINDING OF NO SIGNIFICANT IMPACT**

**JTF-6 LEVEE ROAD MAINTENANCE AND REPAIR ACTIVITIES
BROWNSVILLE, TEXAS**

The primary purpose of the proposed action is to assist in fulfilling the U.S. Border Patrol's (USBP) mission to reduce illegal drug trafficking along the border by increasing their ability to patrol the Brownsville, Texas area. The proposed action would be completed as part of the actions proposed under the USBP's Operation Rio Grande. The proposed action would include maintenance and repair of approximately nine miles of flood control levee roads, access roads and ramps. Most of the levee roads are owned and maintained by the U.S. Section, International Boundary and Water Commission (USIBWC). The proposed actions would be completed under the supervision of the Joint Task Force Six (JTF-6).

An engineer battalion, which is unidentified at the present, would complete the maintenance and repair activities. The construction is tentatively scheduled to begin in spring 2001, and would continue for about eight weeks. Follow up units may be necessary to complete the total action. Troops will bivouac at the Army Reserve Center and National Guard Center in Brownsville, Texas.

Alternatives addressed in the EA include no action and the proposed action described above. Four other alternatives involving increased air patrols, different combinations of construction components, increased use of detection technologies without the repair activities, and alternative routes were eliminated from detailed analysis because they would not satisfy the purpose and need or would cause significantly more environmental damage. The no action alternative would not enhance the USBP mission to reduce illegal drug activities along the border. Of the alternatives considered, the proposed action would be most compatible with the USBP mission.

A Programmatic Environmental Impact Statement (PEIS) was prepared in 1994 for the Immigration and Naturalization Service (INS) and JTF-6 to address similar proposed projects and missions along the southwestern border of the U.S. The EA for the proposed action is tiered from that PEIS in accordance with the President's Council on Environmental Quality's Regulations for Implementing the National Environmental Policy Act of 1969.

No significant adverse affects to the natural or human environment are expected upon implementation of the proposed action. In addition, no adverse effects to Federally protected threatened/endangered species or habitats are expected; beneficial impacts to these species could be realized, however, and will be coordinated through the appropriate agencies. Based upon the results of the EA and the environmental design measures to be incorporated as part of the proposed action, it has been concluded that the proposed action will not have a significant adverse effect on the environment.



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Brigadier General, U.S. Army
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Date

FINAL
ENVIRONMENTAL ASSESSMENT
for the
PROPOSED JTF-6 LEVEE ROAD MAINTENANCE AND REPAIR PROJECT
BROWNSVILLE, TEXAS

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April 2000

EXECUTIVE SUMMARY

Purpose: This Final Environmental Assessment (EA) identifies the potential adverse and beneficial environmental impacts that would occur upon implementation of maintenance and repair activities of levee and access roads near the Brownsville, Texas area in accordance with provisions of the National Environmental Policy Act (NEPA) and Army Regulation 200-2. The scope of this EA covers the potential impacts of maintenance and repair of approximately 11 miles of roads located on flood control levees owned/controlled by the U.S. Section, International Boundary and Water Commission's (USIBWC), City of Brownsville, and/or Cameron County. The upgrades include resurfacing with caliche or comparable road-base material to enhance the safety of any roads in disrepair. In addition, about 2.6 miles of access roads and six ramps are proposed to be improved.

These improvements are being proposed by the Joint Task Force Six (JTF-6) in response to a Support Request from the McAllen Sector, U.S. Border Patrol (USBP). The EA describes the purpose and need for the proposed improvements, alternatives considered during the preparation of the EA, existing conditions of the human and natural environment in the Brownsville region, and the anticipated impacts that would result from implementation of the proposed action.

Project Description: The proposed action is located in Cameron County near the city of Brownsville, Texas. Brownsville is located at the terminus of U.S. Highways 77/83 and 281, along the Rio Grande. The roads have been chosen for repair or upgrade because of their location and related importance in the interdiction of drug smuggling activities known to occur in these project areas. Currently, the roads along the top of the levees have been severely degraded and are marked with numerous, large potholes. Sheet erosion has caused the roads to develop a "washboard" effect in many areas, some of which are up to 0.5 miles in length. As a result, driving conditions, at the speed needed to apprehend drug traffickers, have become unsafe along many reaches of the USIBWC levees. In addition, the higher repair and maintenance costs have been incurred due to the condition of these roads.

Another objective of the proposed action, a required goal for DoD, would be the provision of training opportunities for U.S. military engineers in deployment and redeployment, logistics and design planning, and construction. Both objectives of enhancing drug interdiction activities and providing military training opportunities would be obtained by implementing the proposed action.

Effects: There would be no significant adverse affects to the natural environment associated with the proposed project. The proposed action would not impact the areas geology, air quality, noise, cultural resources, socioeconomics, land use, or pose significant hazardous material concerns. Impacts of the proposed action would not adversely affect any listed or species proposed for listing as threatened or endangered in accordance with the Endangered Species Act. Implementation of mitigation plans, which include abandoning parallel roads currently being used by USBP and establishing an experimental strip of dense, thorny brush, could have beneficial effects to the endangered cat species reported to have the potential to exist in the area.

Potential soil erosion and related surface water runoff impacts are possible during construction efforts of the proposed action. Procedures and methods that should be implemented to mitigate impacts to soils and surface water resources have been developed in the Storm Water Pollution Prevention Plan (PPP) for the proposed action. Recommendations outlined in the SWPPP would reduce surface water runoff from the project site to receiving drainages.

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SECTION 1
INTRODUCTION AND PURPOSE & NEED

1.0 INTRODUCTION

This Environmental Assessment addresses the potential effects, beneficial and adverse, of the proposed road improvements near Brownsville, Texas. Approximately 11 miles of roads on top of the flood control levees owned and maintained by the U.S. Section, International Boundary and Water Commission's (USIBWC), City of Brownsville and Cameron County are proposed to be graded and resurfaced with caliche or comparable road-base material. Other parts of the proposed actions include:

- (1) improving five access roads (approximately 2.6 miles in total length) to allow better access from paved highways to the USIBWC levee roads; and
- (2) improving six ramps to allow better access onto the USIBWC levees.

These improvements are being proposed by the Joint Task Force Six (JTF-6) in response to a Support Request from the McAllen Sector, U.S. Border Patrol (USBP). The remaining sections of this EA describe the purpose and need for the proposed improvements, alternatives considered during the preparation of the EA, existing conditions of the human and natural environment in the Brownsville region, and the anticipated impacts that would result from implementation of the proposed action.

This EA was prepared for JTF-6 and the USBP under Contract Number DACA63-99-P-1204 by the U.S. Army Corps of Engineers (USACE), Fort Worth District and Gulf South Research Corporation (GSRC).

1.1 Background

The U.S. Immigration and Naturalization Service (INS) has the responsibility to regulate and control immigration into the United States. The INS has four major areas of responsibility: (1) facilitate entry of persons legally admissible to the United States (2) grant benefits under the Immigration and Nationality Act, including assistance to persons seeking permanent resident status or naturalization (3) prevent unlawful entry, employment or receipt of benefits, and (4) apprehend or remove aliens who enter or remain illegally in the United States. In regards to the latter responsibility, the U.S. Congress in 1924 created the (USBP) to be the law enforcement arm of the INS. The USBP's primary function is to detect and deter the unlawful entry of aliens and smuggling along the nation's land borders and ports-of-entry (POE). With the increase in illegal drug trafficking, the USBP also has become the leader for drug interdiction between land and POEs.

Since 1980, an average of 150,000 immigrants have been naturalized every year. At the same time, however, illegal aliens have become a significant issue. INS apprehension rates are currently averaging

more than 1.5 million illegal aliens throughout the country. The INS estimates that there are currently from three to six million illegal aliens in the United States. Other studies have indicated higher numbers, closer to 10 million.

The USBP field activities are administered under the Field Operations Division. As mentioned previously, the USBP's primary function is to detect and prevent the unlawful entry of aliens and smuggling along the nation's borders. With the increase in illegal drug trafficking, the USBP also has assumed the major Federal responsibility for illegal drug interdiction. In fiscal year (FY) 1997, the USBP made over 1.5 million apprehensions (illegal immigrants and drug traffickers) and seized more than 880,000 pounds of marijuana and 19,000 pounds of cocaine.

Still, the United States is also experiencing epidemic levels of drug use and drug-related crime as reported by the Office of National Drug Control Policy (1998 and 1999):

- illegal drugs cost our society approximately \$110 billion annually;
- 1.5 million Americans were arrested in 1997 for violating drug laws;
- 819 persons per 100,000 population were murdered during drug related offenses;
- 322,000 Americans are casual heroin users and over 800,000 are heavy users;
- 1.5 to 3 million Americans are casual cocaine users and over 800,000 are heavy users;
- state and Federal prison populations (drug-related crimes) doubled between 1989 and 1996; and,
- over 10 percent of Americans used some form of illicit drug in 1998.

Negative impacts of widespread drug use on society continue to affect the work force, educational system, general law and order, and traditional family values and structure. Prior to 1989, such issues led the U.S. Congress to develop the National Drug Control Strategy (NDCS) with involvement of the Department of Defense (DoD). The Secretary of Defense established Joint Task Force Six (JTF-6) in November 1989 to coordinate all DoD counterdrug support activities of Federal, state and local drug law enforcement agencies (DLEAs) in efforts to curtail drug smuggling activities into the United States and protect national security. JTF-6 assistance is provided at sites located throughout the continental United States. JTF-6 synchronizes and integrates Department of Defense (DoD) operational, engineering, technological, training and intelligence support to DLEA counterdrug efforts to reduce the availability of illegal drugs in the United State. JTF-6 will to continue this effort, as directed by the National Defense Authorization Act (Public Law 101-510, as amended).

The primary sources of authority granted to officers of the INS are the Immigration and Nationality Act, found in Title 8 of the United States Code (8 U.S.C.), and other statutes relating to the immigration and naturalization of aliens. The secondary sources of authority are administrative regulations implementing those statutes, primarily those found in Title 8 of the Code of Federal Regulations (8 C.F.R. Section 287), judicial decisions, and administrative decisions of the Board of Immigration Appeals. In addition, the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996, mandates INS to acquire and/or improve equipment and technology along the border, hire and train new agents for the border region, and develop effective border enforcement strategies.

1.2 Location of the Proposed Action

The proposed action is located in Cameron County near the city of Brownsville, Texas. Brownsville is located at the terminus of U.S. Highways 77/83 and 281, along the Rio Grande, which is the international border between the United States and Mexico (Figure 1). The southern end of the proposed project is located near the site of the historic Fort Brown in southeastern Brownsville and extends along the flood control levees for approximately 11 miles northward (Figure 2). Approximately nine miles of the levee are owned and maintained by the USIBWC; the remainder is under the control of the City of Brownsville and/or Cameron County.

1.3 Purpose and Need

Improvements and construction of primitive roads near the U.S – Mexico border is critical to successful interdiction of narcotics, and the apprehension of both narcotics traffickers and illegal aliens. Recent drug seizure and illegal alien apprehension data for the USBP Brownsville Station are presented in Table 1.

Table 1
Recent Drug Seizure and Alien Apprehension Data for the USBP Station, Brownsville, Texas.

	Marijuana (lbs.)/Value	Cocaine (lbs.)/Value	Total Number of Undocumented Aliens
Fiscal Year 1998	7,306/\$5,844,800.	16/\$519,546	40,658
Fiscal Year 1999	4,232/\$3,385,600.	4/\$110,388	24,995
Fiscal Year 2000 1 st Quarter*	52/\$41,600	0	2,416

Source: USBP 1999. *As of December 20, 1999



Figure 1: Vicinity Map

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SCALE: not to scale

DATE: December 1999

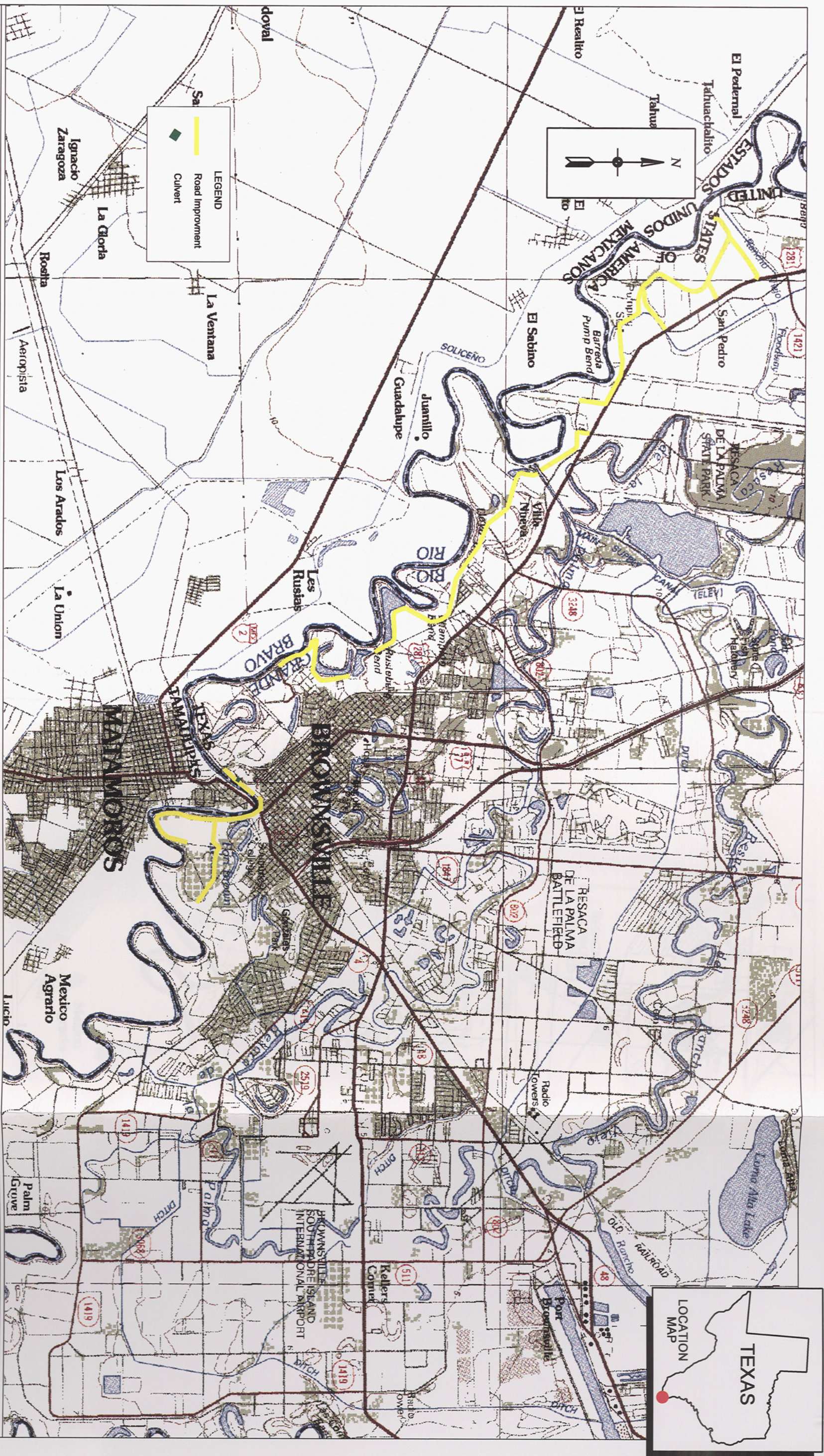


Figure 2: Project Location

These roads have been chosen for repair or upgrade because of their location and related importance in the interdiction of drug smuggling activities and illegal crossings known to occur in these project areas. Currently, the roads along the top of the levees have been severely degraded and are marked with numerous, large potholes. Sheet erosion has caused the roads to develop a “washboard” effect in many areas, some of which are up to 0.5 miles in length. As a result, driving conditions, at the speed needed to apprehend illegal entrants, have become unsafe along many reaches of the USIBWC levees. In addition, the higher repair and maintenance costs have been incurred due to the condition of these roads.

Another objective of the proposed action, a required goal for DoD, would be the provision of training opportunities for United States military engineers in deployment and redeployment, logistics and design planning, and construction. Both objectives of enhancing drug interdiction activities and providing military training opportunities would be obtained by implementing the proposed action.

1.4 Applicable Environmental Statutes and Regulations

This EA was prepared for the U.S. Army Corps of Engineers (USACE), Fort Worth District, in accordance with, but not limited to the National Environmental Policy Act of 1969 (NEPA); Endangered Species Act of 1973, as amended; the National Historical Preservation Act of 1966, as amended; the Archeological and Historical Preservation Act of 1974, as amended; Executive Order (E.O.) No. 11593, “Protection and Enhancement of the Cultural Environment”; E.O. No. 11988, “Flood Plain Management”; E.O. No. 11990, “Protection of Wetlands”; and Army Regulation 200-2. Table 2 summarizes the pertinent environmental requirements that guided the development of this EA.

Table 2
Applicable Environmental Statutes and Regulations.

Environmental Regulations

Federal Statutes

Archeological and Historic Preservation Act
Clean Air Act, as amended
Clean Water Act, as amended
Endangered Species Act, as amended
Migratory Bird Treaty Act
National Historic Preservation Act, as amended
National Environmental Policy Act, as amended
Watershed Protection and Flood Prevention Act
Wild and Scenic Rivers Act, as amended
Farmland Protection Policy Act
Native American Graves Protection and Repatriation Act

Executive Orders, Memorandums, etc.

Flood Plain Management (E.O. 11988)
Protection of Wetlands (E.O. 11990)
Environmental Effects Abroad of Major Federal Actions (E.O. 12114)
Federal Actions to Address Environmental Justice in Minority Populations
And Low-Income Populations (E.O. 12898)

SECTION 2 ALTERNATIVES

2.0 ALTERNATIVES

Various alternatives were identified and considered during the planning stages of the proposed project including the Proposed Action and the No Action Alternative. The other alternatives, however, were considered but eliminated from further evaluation because they did not satisfy the purpose and need of the project, were cost-prohibitive, or socially or environmentally sensitive. The following paragraphs describe each of the alternatives considered.

2.1 Proposed Action

The proposed action consists of repair and upgrade of 11 miles of road along the flood control levees, starting at the Lozano Banco, southeast of downtown Brownsville and extending to the Rancho Viejo Irrigation Canal, just west of San Pedro (see Figure 2). The existing roads on top of these levees range from 10-16 feet wide and are in various stages of disrepair. These roads will be graded to eliminate potholes, rill erosion sites, and washouts and restored to their original design elevations per USIBWC specifications. The roads will then be resurfaced with crushed caliche to provide all-weather driving conditions. Other construction activities associated with the proposed action include improving five access roads (approximately 2.6 miles in total length) to allow better access from paved highways to the levee roads; and improving six ramps to allow better access onto the levees. The location of these actions are also depicted in Figures 3 through 6. Engineering specifications will be coordinated through the USIBWC for roads on top of their levees to ensure original design elevations are not compromised.

Each of the access roads included in the proposed action is an existing road. The access roads provide effective and efficient access for the USBP from local highways and streets to the USIBWC flood control levees. Most are frequently used by USBP, private landowners, USIBWC, and/or local citizens (although these are not official public roadways), and are in various stages of disrepair. Road improvements/upgrades would entail grading the roads within existing rights-of-way (ROW) and resurfacing with crushed caliche or comparable road material. As is the case with the levee roads, the access roads will not be widened or straightened; i.e., all construction activities will occur within the existing ROW. Five access roads, which in their current condition are unsafe, would be improved; the lengths of the roads range from 0.2 miles to 0.7 miles. For purposes of this EA, these access roads are identified as the Morales Banco Road (0.2 miles), Soledad Banco Road (0.7 miles), Los Fresnos East and West Roads (0.7 miles each), Satellite Road (0.2

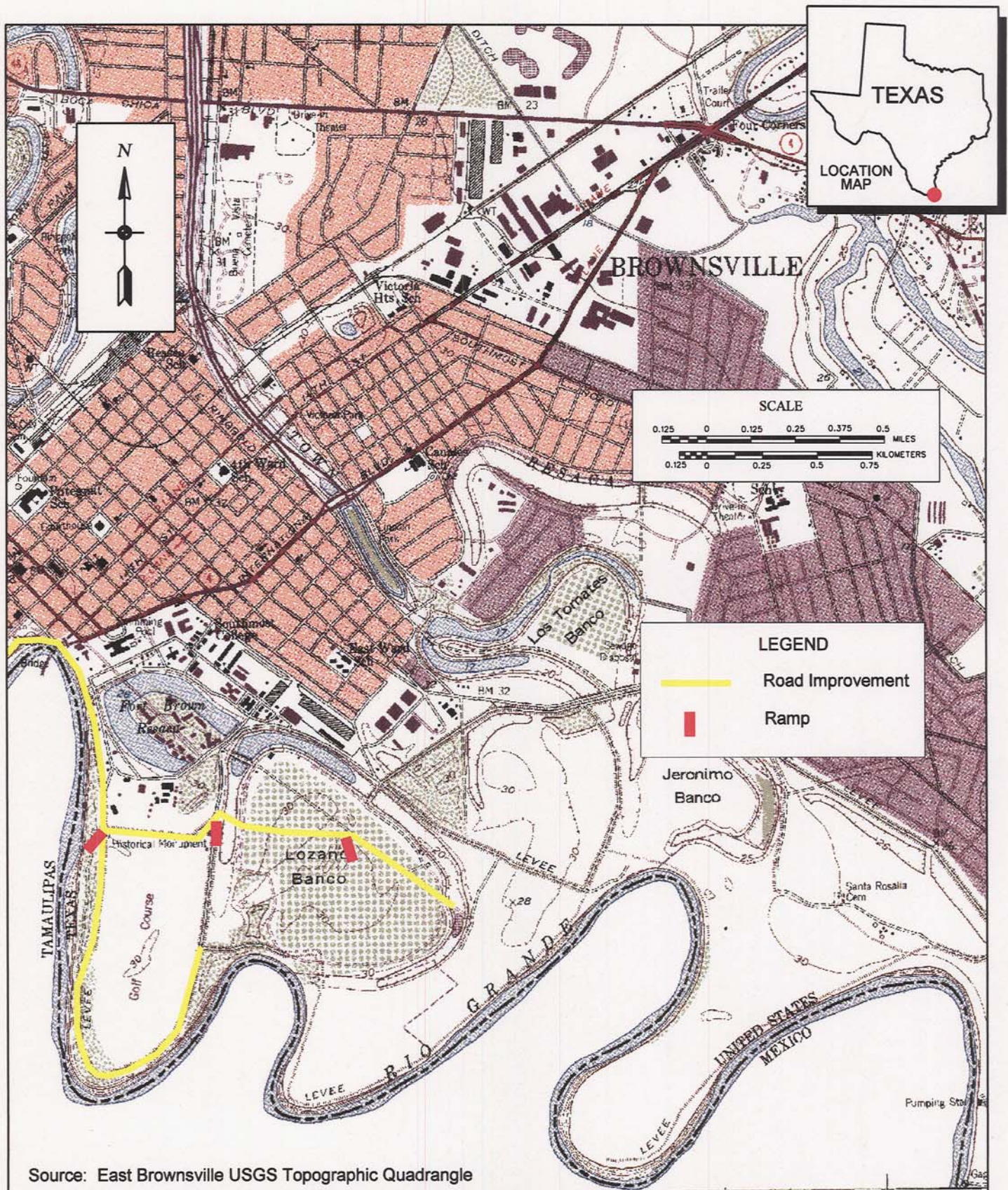


Figure 3: Eastern End of Proposed Project

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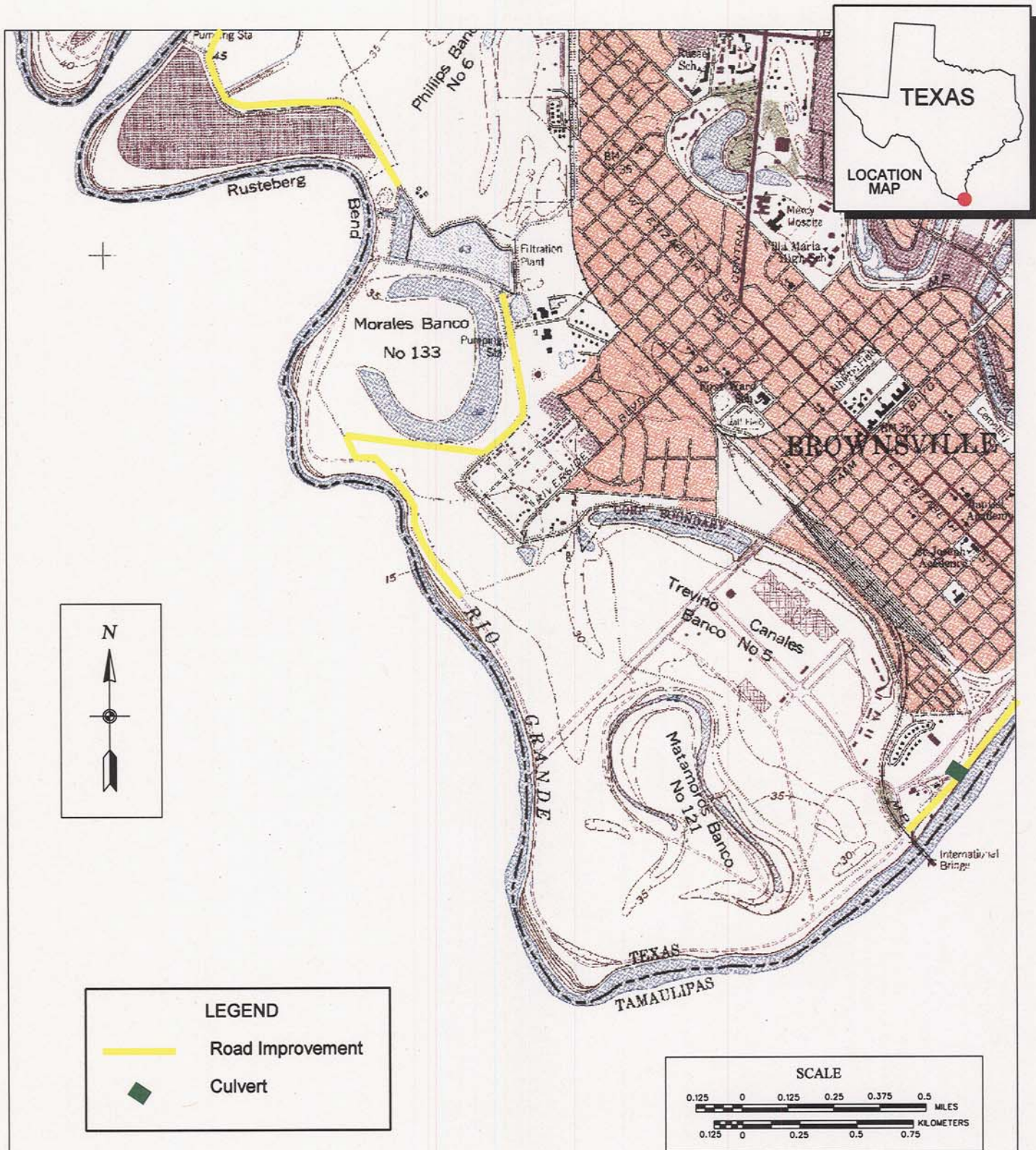


Figure 4: Proposed Actions Upstream of International Bridge

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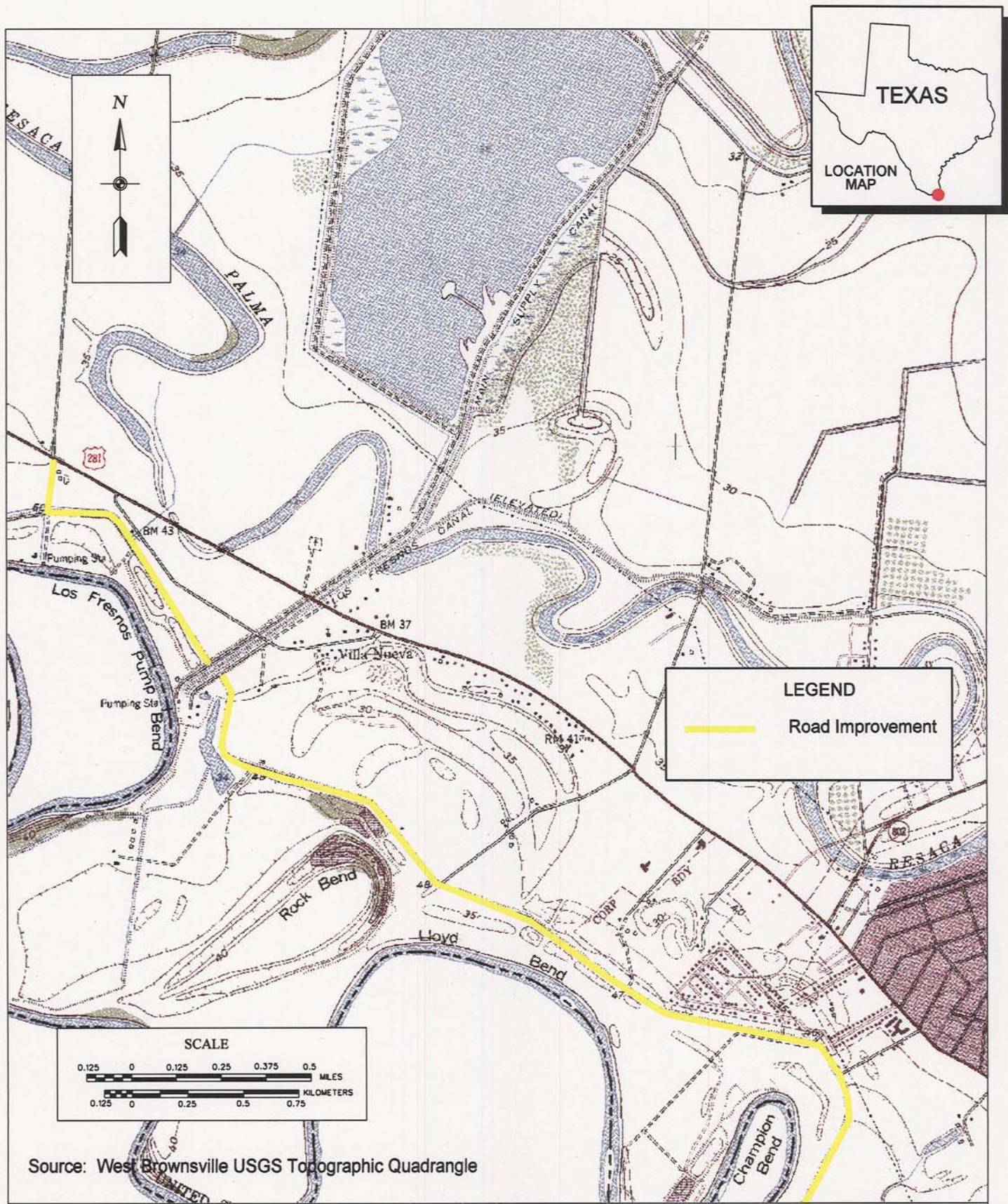


Figure 5: Proposed Actions near Champion Bend

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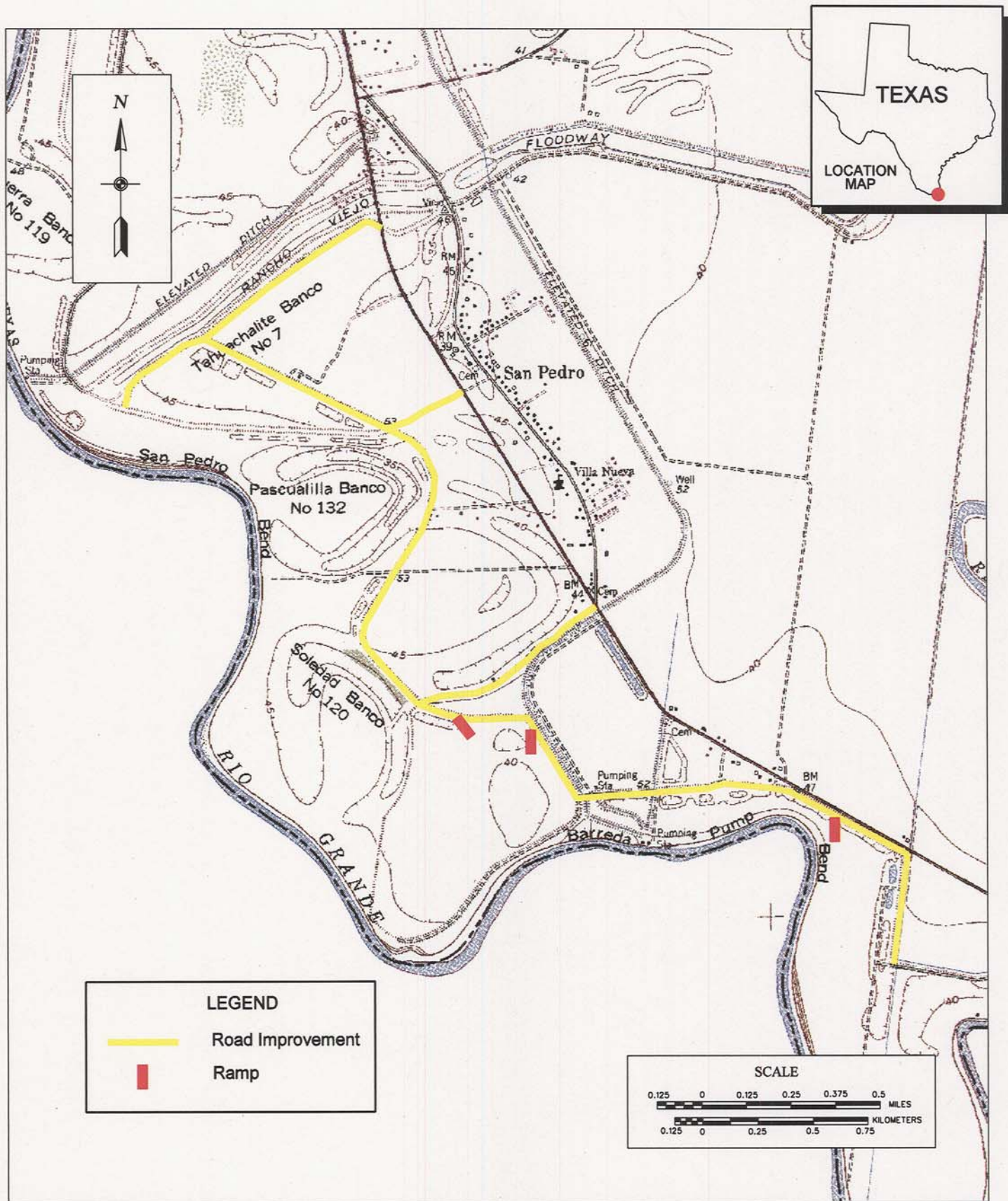


Figure 6: Western End of Proposed Project

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miles), and Tick Rider Road (0.4 miles). The Morales Banco Road is the eastern most access road and the Tick Rider Road is at the western terminus of the proposed project. Conditions along many of these roads are unsafe for speeds higher than 20 mph.

The ramps are earthen and will allow safer access onto and off of the USIBWC levees. Many of the existing ramps are experiencing severe erosion problems due to poor soil compaction and erosion caused by vehicular and pedestrian traffic, and natural erosion by actions of wind and water. The quick responses that USBP agents have to provide when illegal activities are detected are hindered by the poor conditions of these ramps, which require extremely low speeds to maneuver around some of the washouts.

The other miscellaneous actions involve placing fill and/or culverts in areas that have become so eroded that the structural integrity of roads, levees, and bridge abutments could become jeopardized. These actions would occur at the B&M and International bridges and at one site between these two bridges. All fill activities within the floodplain will be coordinated through the USIBWC

The National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP), written specifically for this project (Appendix A), would be implemented to reduce the potential for erosion, siltation, and pollution during the repair/maintenance phase of the proposed projects.

The proposed activities would be conducted by a military engineering unit that will be tasked by JTF-6. The specific unit has not been identified at the time of publication of this EA. A total of approximately 120 soldiers (personnel) would be involved in the project construction. The unit would bivouac at the Army Reserve Center and National Guard Center in Brownsville, Texas. Mess and shower facilities would be established at the Army Reserve or National Guard Centers; gray water would be collected and disposed of via the city's municipal system. Similarly, portable toilets would be provided by and maintained by a licensed contractor. The proposed construction activities would begin in spring of 2001 and continue for approximately eight weeks. Units would work during daylight hours only, six days per week. If necessary, additional units would be deployed to complete the proposed project.

The following is a list of vehicles and heavy equipment expected to be used during the proposed actions:

- 10 1 ½ ton trucks
- 8 HUM Vs
- 6 Bulldozers
- 8 Graders
- 5 Compactors

2.2 Alternative 1. No Action Alternative

The No Action Alternative would continue the USBP patrol efforts as they currently exist with no improvements to the levee and access roads and ramps. Erosion problems would be exacerbated over time, further hindering the agents' ability to effectively detect, deter and/or apprehend illegal entrants. Poor road conditions would also increase health and safety risks as well as vehicle maintenance costs. It is also highly likely that USBP agents, in their desire to successfully perform their mission, would "create" their own roads by traveling cross country if access and levee road conditions worsen. While not encouraged nor condoned, this activity would cause even further erosional problems by removing vegetation in other undisturbed areas. Selection of this alternative, therefore, would not satisfy the purpose and need of the proposed project.

2.3 Alternatives Considered but Eliminated

2.3.1 Increase Air Patrols

Air patrols could be increased to spot narcotics traffickers while USBP agents would continue to utilize existing roads and trails to make apprehensions. Helicopters and fixed winged aircraft patrols could be utilized more heavily in the area. However, many smugglers travel under the cover of darkness, particularly in urban or developed areas, when aircraft would have difficulty spotting movement on the ground. Helicopters are more capable of tracking smugglers but their range is confined and the cost of increased operation is prohibitive. Increased air patrols may aid in drug interdiction activities, but not to the extent of the proposed action and at a cost that is prohibitive. In addition, noise levels would increase, perhaps to socially unacceptable levels, due to the increased air patrols.

2.3.2 Levee Roads without Ramps and Access Roads

This alternative would allow the improvements to the USBWC levee roads, but upgrades to access roads and ramps would not be realized. This alternative was eliminated from further consideration since the levee roads would eventually be rendered useless as the ramps and access roads continue to erode and quick access to the levee roads would become difficult and unsafe, or impossible in some areas.

2.3.3 Increased Use of Integrated Surveillance and Intelligence Systems with No Improvements

This alternative would involve increasing the Integrated Surveillance and Intelligence Systems (ISIS) along the border without any construction activities (i.e., levee roads, ramps, and access roads). ISIS includes various systems and combinations of systems such as lighting, remote video surveillance cameras, aerial and satellite photography, and ground sensors. While these systems are an integral part of the detection and deterrence of illegal activities, the apprehension of the illegal entrants are still performed by the USBP and other drug law enforcement agents. These agents would need the levee roads, access roads, and ramps in order to make the arrests. Without the proposed improvements, erosion will continue, and the ramps and roads will eventually become impassable or unsafe to drive at higher speeds (20 mph). Consequently, this alternative was eliminated from further consideration.

2.3.4 Alternative Routes and/or New Roads

The possibility of constructing new roads within and outside of the levee to assist the USBP was considered, but was eliminated as a viable alternative. New roads and alternative routes would have significantly more adverse impacts to natural and cultural resources, would increase the potential for additional erosion and concomitant effects from stormwater runoff, and would not be as effective as the raised levee roads in assisting the USBP detect or observe illegal activities.

SECTION 3

AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This section of the EA describes the natural and human environment that exists in the Brownsville region. Only those parameters, which have the potential to be affected by the proposed actions, are described.

3.1 Land Use

Major land uses in the Brownsville area include well-developed urban centers, intensive agricultural areas, and extensive areas of recreation and wildlife management such as the Lower Rio Grande National Wildlife Refuge. Acreage and distribution of land use within Cameron County are summarized in Table 3.

Major urban centers include Brownsville, Harlingen, and San Benito. Although Cameron County is one of the most urbanized counties in the Southern Gulf Coastal Plains Province, 48 percent of the land is devoted to agriculture as can be seen from Table 3. Major crops are citrus, cool-season vegetables, cotton, and grain sorghum. Rangeland and Water/Wetland comprises 25 percent and 22 percent of land uses in Cameron County, respectively.

Table 3
Land Use Classification in Cameron County

Types of Use	Acres
Agricultural	392,564
Residential	21,508
Commercial/Industrial	5,791
Forest Land	222
Rangeland/Barren Land	206,386
Water/Wetland	178,933
Other Urban	11,357

3.2 Soils

The Natural Resource Conservation Service (NRCS) soil survey information for Cameron County (1977) was reviewed to determine the general soil types found within the proposed project area. The soil associations in the proposed project area that may be encountered during proposed construction activities are the Rio-Grande-Matamoros and Laredo-Olmito association, which are briefly described below.

The Rio Grande-Matamoros association occupies a narrow band less than two miles wide adjacent to the Rio Grande. It is characterized by nearly level to gently sloping, well-drained and moderately well-drained silt loams and silty clays. This association has a surface layer of light-gray, calcareous silt loam, about eight to nine inches thick, over stratified silt loam, silty clay loam, or very fine sandy loam. The soils in this association are used mostly for irrigated crops. This association has a high potential for the production of most of the major crops commonly grown in the county.

The Laredo-Olmito association generally follows the pattern of the old resacas on a low terrace of the Rio Grande. These soils are characterized by nearly level to gently sloping, well-drained and moderately well-drained silty clay loams and silty clays. This association has a surface layer of dark grayish-brown, calcareous silty clay loam approximately eight to 16 inches thick. These soils are moderately well-drained and slowly permeable. The soils in this association are used mainly for irrigated crops.

3.3 Biological Resources

3.3.1 Regions\Provinces

The project area is located in the South Texas Brush Country Natural Region (TPWD 1999). The South Texas Brush Country is an area of approximately 28,000 square miles of level to rolling terrain. The elevation ranges from sea level to 1,000 feet above sea level and receives between 16 and 35 inches of annual rainfall. The shallow soils, rapid drainage, and clay and clay loam soils support thorny brush which is the predominant vegetation in this region (TPWD 1999).

The natural regions of Texas were derived in conjunction with the widely known biotic provinces of Texas described by Blair (1950), who developed the biotic provinces with emphasis on the terrestrial vertebrates, excluding birds. Blair considered the South Texas Brush Country Natural Region to be part of the Tamaulipan Biotic Province. The Tamaulipan Biotic Province is further subdivided into the Nueces District and the Matamoran District (Blair 1952). Cameron County falls almost entirely within the Matamoran District, which is characterized by thorny brush with well-drained soils and distinct vegetation. As a result of the Matamoran District being located at the southern tip of Texas, the land becomes semiarid with annual rainfall between 15 and 30 inches.

3.3.2 Vegetation Communities

The area along the Rio Grande was historically characterized by subtropical plant species such as Texas ebony (*Pithecellobim ebano*) and anacua (*Ehretia anacua*). The distribution of plants, which are influenced by climatic factors, is also directly associated with geologic formations. These vegetative species are usually thorny and dense in the predominately xeric (i.e. extremely dry) areas found in the uplands. The climate in this area is semi-arid and subtropical. However, nearly all of the area within the project corridor between the Rio Grande and the USIBWC flood control levees has been disturbed and consists mainly of grasslands or agricultural crops such as cotton, grain sorghum, corn, sugarcane, citrus, and vegetables.

As a result of the clearing of native brush for agriculture, relatively small remnant plots of native brush are now surrounded by agricultural crops. The native brush is confined throughout the project area to small parcels between agricultural fields, primarily along or within resacas (ox-bow type lakes/ponds), and narrow strips along the Rio Grande, as can be seen in Figures 7 through 10.

Still, the remnant habitat provides resting, feeding, and breeding areas important to wildlife. Common trees in these areas include sugar hackberry (*Celtis laevigata*), mesquite (*Prosopis glandulosa*), Berlandier ash (*Fraxinus berlandieriana*), Texas ebony (*Pithecellobim flexicaule*), and retama (*Parkinsonia aculeate*). Shrubs commonly found in the project area include huisache (*Acacia smallii*), spiny hackberry or granjeno (*Celtis pallida*), Rossevelt weed (*Baccharis neglecta*), whitebrush (*Aloysia texana*), blackbrush (*Mimosa biuncifera*), lotebush (*Zizyphus obtusifolia*), brasil (*Condalia hookeri*), cenizo (*Leucophyllum texanum*), anacahuita (*Cordia boissieri*), and mimosa (*Mimosa* sp.).

Lands converted to rangeland are often planted in varieties of bermudagrass (*Cynodon dactylon*) and bluestems (*Andropogon* spp.) because they provide better forage than other common grasses. Common introduced grasses in the project area include guinea grass (*Panicum maximum*), buffalo grass (*Cenchrus ciliaris*), and common reed (*Phragmites australis*). Various other introduced species that are common in the project area include pepper vine (*Ampelopsis arborea*), tree tobacco (*Nicotiana glauca*), and lead castor-bean (*Ricinus communis*).

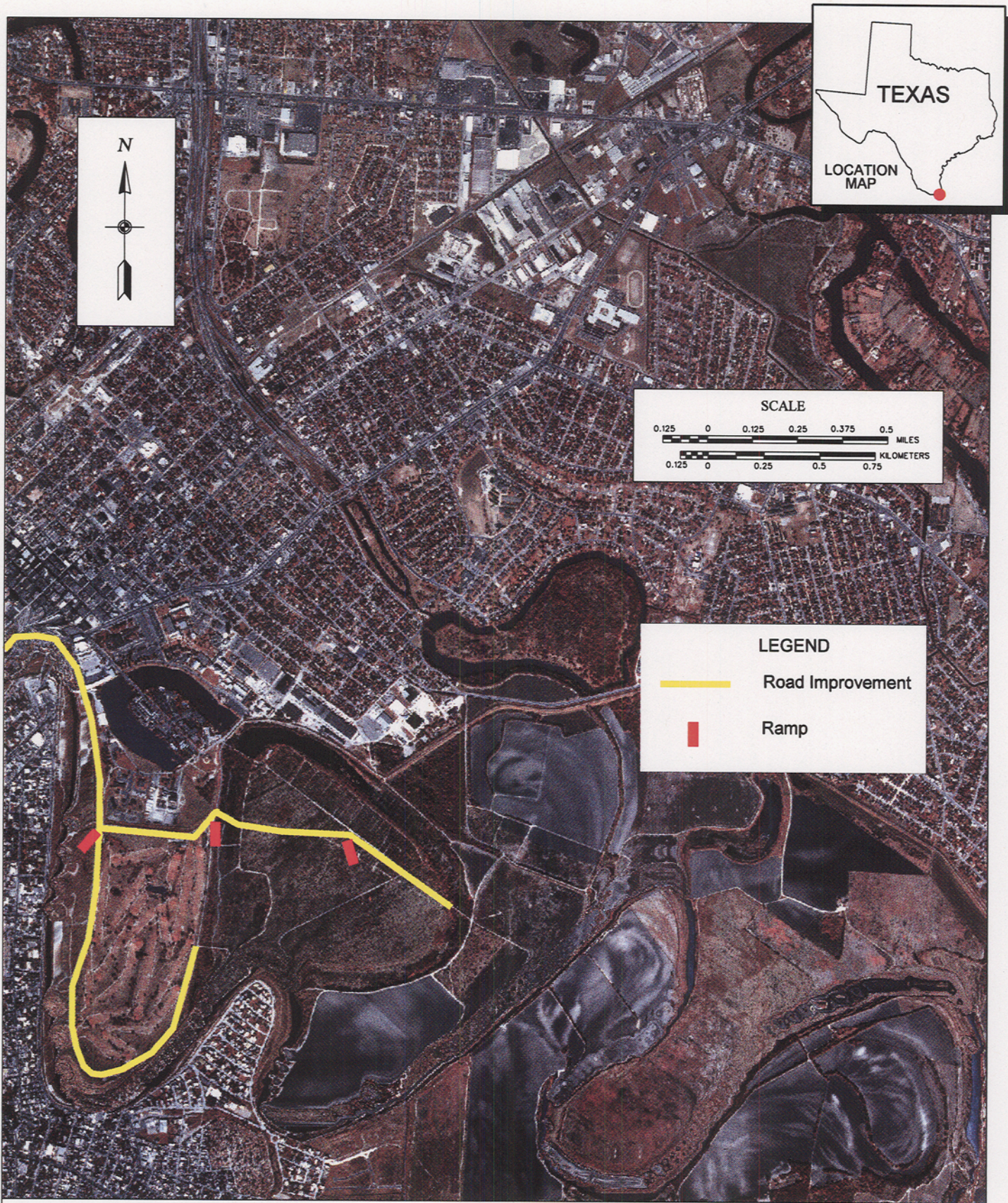


Figure 7: Eastern End of Proposed Project

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RESEARCH
CORPORATION

SCALE: 1:24,000

DATE: December 1999



NO AERIAL PHOTO FOR THIS SECTION

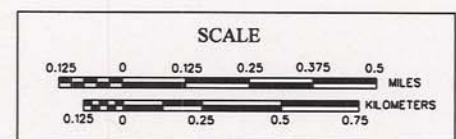
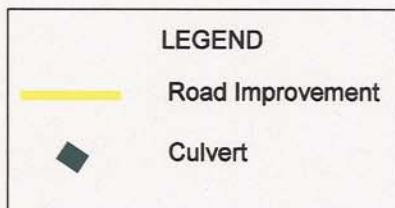
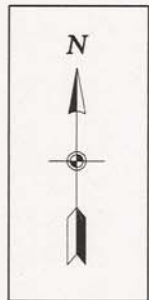


Figure 8: Proposed Actions Upstream of International Bridge

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SCALE: 1:24,000

DATE: December 1999



Figure 9: Proposed Actions near Champion Bend

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SCALE: 1:24,000

DATE: December 1999

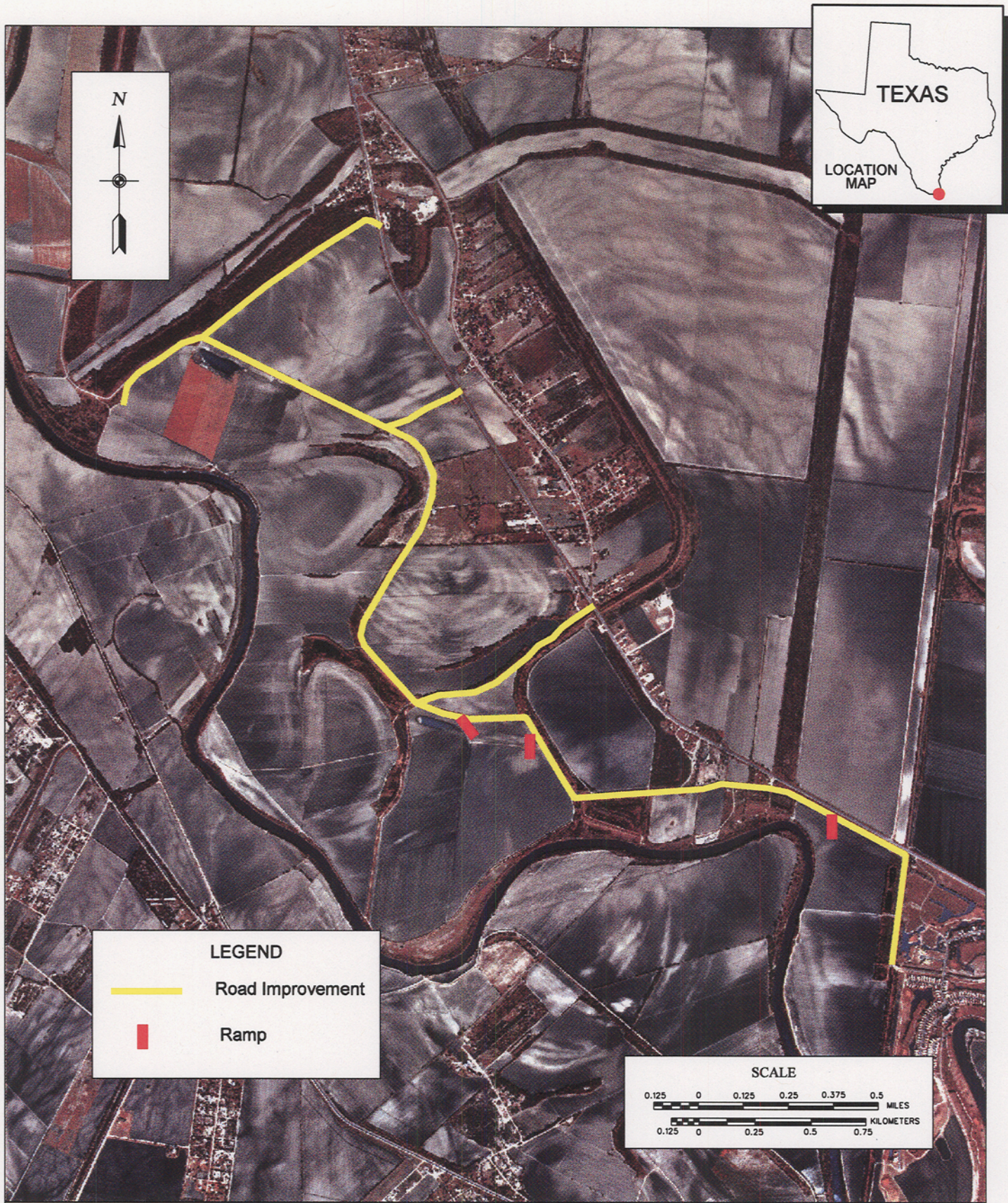


Figure 10: Western End of Proposed Project

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CORPORATION

SCALE: 1:24,000

DATE: December 1999

Field surveys along the entire proposed construction right-of-way (ROW) were performed in November 1999. Biologists walked parallel transects along either side of the existing roads and performed surveys at each ramp site to document the presence or potential presence of protected species and to identify the existing habitat types and general wildlife populations.

Most of the ROW is characterized by disturbed shrub and/or grasslands. Typical sections of the USIBWC levee road and adjacent vegetation are illustrated in Photographs 1 through 4 (Appendix B). Vegetation in these reaches was very dense native and introduced grasses, with most areas supporting ground cover from 98 to 100 percent. The predominant species in these areas are bermudagrass, guinea grass, foxtail grass (*Setaria* sp.), rhodesgrass (*Chloris gayana*), Johnsongrass (*Sorghum halpense*), and common reed. Other common herbaceous species that were recorded included bushy lippia (*Lippia alba*), silverleaf nightshade (*Solanum eleagnifolium*), common sunflower (*Helianthus annuus*), castorbean, and hedgenettle (*Stachys drummondii*). Shrubs and vines that were commonly recorded in this community included Alamo vine (*Ipomea sinuata*), old man's beard (*Clematis drummondii*), sensitive briar (*Schrankia* sp.), mesquite, mimosa, baccharis (*Baccharis* sp.), Chinaberry (*Melia azedarach*) and retama.

The eastern half of the Soledad Banco Road transected a thorn-scrub forest that supported dense stands of cedar elm (*Ulmus crassifolia*), Texas ebony, allthorn goatbush (*Castela texana*), granjeno, and retama (Photograph 5, see Appendix B). This road is less than 0.2 miles long. This area is dense enough to serve as travel corridor for endangered cat species, but was not contiguous with other vegetated tracts.

3.3.3 Fish and Wildlife Resources

3.3.3.1 Wildlife

There are approximately 67 mammals of potential occurrence in the study area. The mammals are dominated by rodents (24 species) and bats (13 species). Some common mammals which may be encountered in the Lower Rio Grande Valley are the common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), Mexican ground squirrel (*Spermophilus mexicans*), and the bobcat (*Felis rufus*). Cottontail rabbits (*Sylvilagus floridanus*) were the only mammal encountered during the field surveys, although sign (tracks, scat) of other mammals (e.g., coyote and rodents) were observed.

There are approximately 484 species of birds that potentially occur in the project area. The dominant numbers of avifauna are represented by the wood warblers (44 species), geese and ducks (30 species), sparrows and towhees (26 species), raptors (25 species), and tyrant flycatchers (25 species). Some of these species nest in the project area, but most of the 414 species are only seen during spring and fall migration. Many species pass through the Rio Grande Valley on their way to summer breeding or wintering grounds because of the convergence of two major migratory flyways. The Rio Grande Valley is the convergence of the Central and Mississippi flyways and the point where many tropical birds reach their northernmost ranges. These factors contribute to the diverse avifauna of the Lower Rio Grande Valley, which are predominantly concentrated in the numerous wildlife refuge tracts along the Rio Grande. Many rare birds are found along the riparian zones of the Rio Grande. Orioles (*Icterus* spp.), and green jays (*Cyanocorax yncas*) are two species which may exhibit their greatest density in this habitat.

Common birds include the common ground-dove (*Columba passerina*), golden-fronted woodpecker (*Melanerpes aurifrons*), northern mockingbird (*Mimus polyglottos*), great-tailed grackle (*Quiscalus mexicanus*), and the groove-billed ani (*Crotophaga ani*). Species that are present due to migratory habits or seasonal residence may include the indigo bunting (*Passerina cyanea*), orchard oriole (*Icterus spurius*), green heron (*Butorides virescens*), and the black-chinned hummingbird (*Archilochus alexandri*). Winter residents as well as migrants may include the mallard (*Anas platyrhynchos*), greater yellowlegs (*Tringa melanoleuca*), laughing gull (*Larus atricilla*), belted kingfisher (*Ceryle alcyon*), and the sharp-shinned hawk (*Accipiter striatus*). Strict migrants include the scarlet tanager (*Piranga olivacea*), Mississippi kite (*Ictinia mississippiensis*), broad-winged hawk (*Buteo platypterus*), Wilson's phalarope (*Phalaropus tricolor*), and Franklin's gull (*Larus pipixcan*). The more common birds observed during the recent field surveys included mourning dove, black vulture, American kestrel, red-tailed hawk, white-tailed hawk, ringed kingfisher, great-tailed grackle, northern mockingbird, and cardinal.

Amphibians and reptiles are also well represented in the Lower Rio Grande Valley. There are approximately 80 species of reptiles and amphibians of potential occurrence in the study area. The reptiles consist of snakes (31 species), lizards (20 species), turtles (6 species), and one crocodilian. The amphibians consist of frogs and toads (18 species) and salamanders (4 species).

Terrestrial/freshwater species of turtles are represented by the red-eared slider (*Trachemys scripta elegans*), Texas spiny soft-shelled turtle (*Apalone spinifera*), ornate box turtle (*Terrapene ornata ornata*), Texas tortoise (*Gopherus berlandieri*), and the yellow mud turtle (*Kinosternon flavescens flavescens*). The American alligator (*Alligator mississippiensis*) has also been recorded in the study area. Species of lizards include whiptails (*Cnemidophorus* spp.), skinks (*Eumeces* spp.), Mediterranean gecko

(*Hemidactylus turcicus*), and the green anole (*Anolis carolinensis*). Snakes include water snakes (*Nerodia* spp.), rat snakes (*Elaphe* spp.), and two venomous snakes, the western diamondback rattlesnake (*Crotalus atrox*) and the Texas coral snake (*Micrurus fulvius tener*).

3.3.3.2 Fish

The Rio Grande, resacas, arroyos, reservoirs, ponds, irrigation ditches, and other manmade impoundments comprise the aquatic communities in the study area. The variations in habitat within these systems are primarily due to conditions of the substrate, the presence and extent of rooted vegetation, water-flow velocity, and basin morphology. Substrates may be represented by packed clay in areas of rapid water flow, sandy loams are representative of moderate flow, and slow areas and large pools have soft anaerobic mud as a substrate.

The freshwater fauna most likely consists of smaller forage fish populations including the red shiner (*Notropis lutrensis*), inland silverside (*Menidia beryllina*), Tamaulipas shiner (*Notropis braytoni*), mosquitofish (*Gambusia affinis*), sailfin molly (*Poecilia latipinna*), gizzard shad (*Dorosoma cepedianum*), and threadfin shad (*Dorosoma petenense*). Larger forage fish would include carp (*Cyprinus carpio*), buffalo (*Ictiobus* spp.) striped mullet (*Mugil cephalus*), catfishes (Ictaluridae spp.), and sunfishes (Centrarchidae spp.). There are approximately 178 species of fish that could potentially occur in the project area. The dominant numbers of fish are represented by the sunfishes (10 species), carps and minnows (9 species), and the drums (8 species).

3.3.4 Threatened/Endangered Species and Critical Habitats

A total of 22 Federal endangered, threatened, or candidate species occur or potentially occur within Cameron County. Three species are listed as threatened and 17 as endangered. The two species of peregrine falcon have been recently delisted, but are still afforded Federal protection (USFWS 1999). Information pertaining to the distribution, habitat requirements, and reason of decline for the endangered, threatened, and candidate species are listed in Table 4. Although all the above mentioned species have the potential to occur in the study area, the construction corridor does not contain habitat suitable to support any of these species, based upon recent field surveys performed for this project. No Federal or state listed species were observed during the field surveys. At this time, there are no Federally designated critical habitats within the study area (USFWS 1999).

3.3.5 Unique and Environmentally Sensitive Areas

Numerous unique or sensitive areas exist in the project area because of the convergence of subtropic, temperate, coastal, and desert influences all occurring in this area of Texas.

3.3.5.1 Lower Rio Grande Valley National Wildlife Refuge

The Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) is one of the most biologically diverse national wildlife refuges in the continental United States. Located in the United States and Mexico, it is a culturally and ecologically important as well as diverse corridor. A binational planning effort, the Caminos del Rio Heritage project, is now underway to conserve the unique natural and cultural heritage along the Rio Grande, from the Laredo/Columbia area to the Gulf of Mexico. With technical assistance from the National Park Service, this "heritage corridor" preservation effort includes two national parks, 196 National Register of Historic Sites, four state parks, and the LRGVNWR (American Rivers 1993). Habitat types include chaparral, sub-tropical gallery forests, salt lakes, palm forests, tidal flats, salt marshes, sand dunes, Bordas escarpment, savannahs, and other unique habitats. The goal of the project is to acquire properties along the Rio Grande in order to create a wildlife corridor preserve riparian habitat, which would provide travel corridors for wildlife. The Lower Rio Grande Valley Refuge Acquisition Plan has identified key areas, which, although removed from the Rio Grande, will serve as anchor wildlife areas, providing corridors for wildlife species migrating north and south. The plan developed for the LRGVNWR identifies 10 different habitat types: Coastal Brushland Potholes, Loma/Tidal Flats, Woodland Potholes and Basins, Mid-Delta Thorn Forest, Sabal Palm Forest, Mid Valley Riparian Woodland, Upland Thorn Scrub, Barretal (thicket), Upper Valley Flood Forest, and Chihuahuan Thorn Forest (Falcon Woodland).

When completed, the LRGVNWR will incorporate 132,500 acres of land and habitat that have either been purchased or acquired through conservation easements. The refuge will consist of a conglomeration of existing property owned and acquired by Texas Parks and Wildlife Department, National Audubon Society, The Nature Conservancy, and private landowners. The current acreage of the refuge is 89,321 acres as of May of 1999 with tracts located in four counties; about 47,000 acres are in Cameron County.

Table 4

Federally Listed Animals of Potential Occurrence in Cameron County, Texas.

COMMON NAME SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS	YEAR LISTED	HABITAT DESCRIPTION
Arctic peregrine falcon <i>Falco peregrinus tundrius</i>	DL(1999)	T	1970	potential migrant; nests in west Texas
American peregrine falcon <i>Falco peregrinus anatum</i>	DL(1999)	E	1970	potential migrant; nests in west Texas
Northern aplomado falcon <i>Falco femoralis</i>	E	E	1986	open country, especially savanna and open woodland, and sometimes in very barren areas;
Piping plover <i>Charadrius melodus</i>	T	T	1985	wintering migrant along the Texas Gulf Coast; beaches and bayside mud or salt flats.
Interior least tern <i>Sterna antillarum athalassos</i>	E	E	1985	nests along sand and gravel bars within braided streams, rivers and some inland lakes.
Brown pelican <i>Pelecanus occidentalis</i>	E	E	1970	largely coastal and near shore areas, where it roosts on islands and spoil banks.
Ocelot <i>Felis pardalis</i>	E	E	1972	dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds
Jaguarundi <i>Felis yagouaroundi cacomilli</i>	E	E	1976	thick brushlands, near water favored; six-month gestation, young born twice per year in March
Jaguar (extirpated) <i>Panthera onca</i>	E	E	1997	dense chaparral; no reliable TX sightings since 1952.
West Indian manatee <i>Trichechus manatus</i>	E	E	1967	gulf and bay system; opportunistic, aquatic herbivore.
Atlantic Hawksbill sea turtle <i>Eretmochelys imbricata</i>	E	E	1970	gulf and bay system.
Green sea turtle <i>Chelonia myda</i>	T	T	1970	gulf and bay system.
Kemp's Ridley sea turtle <i>Lepidochelys kempii</i>	E	E	1970	gulf and bay system.
Leatherback sea turtle <i>Dermochelys coriacea</i>	E	E	1970	gulf and bay system.
Loggerhead sea turtle <i>Caretta caretta</i>	T	T	1978	gulf and bay system.
Black laced cactus <i>Echinocereus reichenbachii</i>	E	E	1979	openings in dense brush on sandy soils on South Texas Plains; flowering April-June
Star cactus <i>Astrophytum asterias</i>	E	E	1993	gravelly saline clays of loams over the Catahoula and Frio formations, on gentle
South Texas Ambrosia <i>Ambrosia cheiranthifolia</i>	E	E	1994	open prairies and various shrublands on deep clay soils; flowering July-November
Ashy dogweed <i>Thymophylla tephroleuca</i>	E	E	1984	grassland or blackbrush or cenizo shrublands on fine sandy loam soils; flowering February-
Johnston's frankenia <i>Frankenia johnstonii</i>	E	E	1984	shrublands on flats on saline sandy to clayey soils and on rocky gypseous slopes; flowering
Zapata bladderpod <i>Lesquerella thamnophila</i>	E	E	1999	blackbrush and/or cenizo shrublands on gravelly to sandy loams derived from Eocene
Walker's manioc <i>Manihot walkerae</i>	E	E	1991	periphery of native brush in sandy loam; also on caliche cuestas; flowering April-September

T - threatened

DL- federally delisted

E - endangered

Source: TPWD 1998 and 1999.

3.3.5.2 Wild and Scenic/Endangered Rivers

Wild and scenic rivers, as designated by the U.S. Department of the Interior, is a river, stream, or bayou, or segment of a river, stream, or bayou that is in a free-flowing condition; does not contain any man-made structures that forms a slack water pool; has not been channelized; has not been cleared and snagged in the past 25 years; has not been realigned, inundated, or otherwise altered; has no or few man-made structures along its banks; is generally accessible; and is unpolluted.

There are no wild and scenic rivers located within the project area. Sections of the Rio Grande are labeled as a “Wild and Scenic” River, but these are located upstream of the project area. The “Wild and Scenic” designation ends at the Terrell and Val Verde County line due to the deterioration of water quality and riparian areas downstream.

3.4 Cultural Resources

3.4.1 Cultural Resources Overview

Phase I Cultural Resource Survey along the entire route of the proposed JTF-6 levee road maintenance and repair project was performed in November 1999. Other specific locations examined six ramp and 2.6 miles of existing dirt or farm roads that are used as access roads .

3.4.2 Field Methodology

A systematic archaeological survey was done for all portions of the proposed project area. Existing gravel roads on the top of flood control levees were examined by vehicular survey. Selected, parallel patrol roads were subject to pedestrian survey and shovel testing. Shovel tests were excavated at 30-meter grid intervals paralleling the edges of the access roads. Judgmental shovel tests were made at selected locations along the access roads. The shovel tests were approximately 30 cm square, and were excavated to a depth that reached well into the sterile subsoil, and were generally 30 to 50 centimeters deep.

3.4.3 Previous Cultural Resources Investigations

A review of the previously recorded historic and archaeological sites showed that there were no documented prehistoric archaeological sites within the proposed construction area. Some sites were

located in the proximity to the USIBWC levee, however. A geomorphological study was conducted in 1999 along a portion of the Rio Grande, as part of an Environmental Impact Statement for the USIBWC Lower Rio Grande Flood Control Project, which encompasses the current project area. Ten subsurface geomorphological tests were conducted along the Rio Grand in the general vicinity of the project area that is discussed in this report. The study was designed to examine the near-surface sediments, determine the depositional environment and the relative ages of the sediments (Cooper et al. 1999:66-90).

The Rio Grande is a strongly meandering river, with a meander belt some three to five miles wide. The project area lies entirely within that meander belt and has been subject to the course changes of the Rio Grande as can be evidenced from the numerous visible meander scars and resacas. In addition to this, the geomorphological study determined that there is an excessively high rate of alluvial deposition in much of this area (see Cooper et al. 1999:66-90). The implications of this rapid meandering and high rate of deposition to prehistoric cultural resources is clear. While it is expected that prehistoric habitation of this portion of the valley must be expected, the presence of sites may be lower than what would normally be expected, and that locating of any remaining sites would be difficult. Prehistoric sites that were not removed by the active meandering of the river, are expected to be deeply buried because of the high sedimentation rate that is common in the area. Although not systematically surveyed, the general lack of any recorded prehistoric sites for the project area is probably a good indicator of the absence of surficially located prehistoric sites.

The survey and shovel testing that was done in specific locations of the project area bears out the lack of prehistoric sites at or very near the surface. The implications of this is that since there are no deep excavations associated with the improvements, it is highly unlikely that deeply buried sites will be encountered.

A total of 22 recorded or potential historic sites were located in the general vicinity of the project area. Of these 22 locations, nine are based only on structure locations shown on early quadrangles. The most important of the sites is that of Fort Brown located within a meander loop of the river on the south side of Brownsville. The site included the original Fort Brown, the late nineteenth century Fort Brown and some of the structures associated with the later fort construction. It is currently listed on *the National Register of Historic Places* (NRHP). This area is now completely surrounded by large flood control levees. Road improvement work confined to the top of the levee should have no impact to the cultural resources of this property. 41CF95 is the Neal Home built about 1850, but moved from its original location. This site is outside the planned construction zone.

East of the Fort Brown area there are ten previously recorded sites in the Lozano Banco and to the east of the meander that surrounds that area. Only one of these sites is known to date to the mid-nineteenth century. The remainder are historic habitation and dump sites of the late twentieth century. No further work has been recommended for any of these sites. None are immediately adjacent to the flood control levee, so road improvements should have no impact. The ramp work is to consist of improving an existing ramp and should have no additional impact.

Of the sites that are shown in the vicinity of the survey area to the west of Brownsville, one (B6-2) is the location of the Kiln Waterworks and Electric Plant. It is well outside any construction area. Site 41CF178 appears on the 1936 West Brownsville topographic map and is recorded as a scatter of historic artifacts. It is well north of the construction area and will not be affected.

3.4.4 Current Cultural Resources Investigations

Approximately 11 miles of project area was along dirt roads along the top of USIBWC flood control levees. Vehicular surveys of these portions of the project area were done. That survey confirmed that grading and resurfacing these existing roads along the top of the flood control levees would not impact any known cultural resources.

A total of about 2.6 miles of the survey were along existing dirt or farm roads that were to be improved for access from U.S. Highway 281 to the Border Patrol roads paralleling the river. This was divided between five separate access roads; Tick Rider road, Satellite Road, Soledad Banco Access road, Los Fresnos Access road east and west, and Morales Banco Access Road. All the access roads with the exception of the Los Fresnos Access Road East and West were examined for surface artifacts and shovel tested along the edges of the road. The Los Fresnos Access Road east and west was heavily disturbed by the construction of the Los Fresnos canal and was inspected through vehicular survey. No cultural materials were revealed at any of these locations. However, there is a possibility of deeply deposited cultural remains that would not be found with conventional shovel testing or surface reconnaissance along the Soledad Banco and Morales Banco access roads, since these roads are located adjacent to meander scars.

3.5 Air Quality

3.5.1 Federal, State, Rural, and Wilderness Standards

The Clean Air Act, which was last amended in 1990, required states to adopt ambient air quality standards that are at least as stringent as the Federal National Ambient Air Quality Standards (NAAQS) however, the state standards may be more stringent. The State of Texas has adopted the NAAQS (40 CFR Part 50) as the state's air quality criteria. The NAAQS consists of primary and secondary standards for selected criteria pollutants (Table 5). Primary standards are established to protect public health while secondary standards provide protection for the public's welfare including wildlife, climate, recreation, transportation, and economic values. Criteria pollutants include lead, particulate matter, sulfur dioxide, carbon monoxide, ozone and nitrogen dioxide.

As required by the Clean Air Act, an independent scientific advisory body, Clean Air Scientific Advisory Committee (CASAC), evaluated the existing standards to determine if they were adequately protective of public health. CASAC determined that EPA's current ozone and particulate standards should be strengthened. As of July 18, 1997, EPA revised two standards, ozone and particulate matter, to ensure a more effective and efficient protection of public health and the environment.

These revised and strengthened standards are an 8-hour ozone standard of 0.08 parts per million (ppm), a 24-hour PM_{2.5} (particulate matter with a diameter of 2.5 microns or smaller) standard of 65 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and an annual PM_{2.5} standard of 15 $\mu\text{g}/\text{m}^3$. EPA has maintained the existing standard for the annual and 24-hour PM₁₀ standard, but replaced the 1-expected-exceedance form with the 99th percentile from, aged over three years.

3.5.2 Potential Sources of Air Pollutants

The airshed along the Texas-Mexico border encompasses a largely rural and undeveloped area where, except for occasional dust storms, the air quality is generally good. However, urban areas in the United States and Mexico and intensive agricultural efforts heavily affect the airshed within the project area. The Lower Rio Grande River Valley is experiencing a rapidly growing population and consequently faces the distinct possibility of deteriorating air quality. There are a number of associated anthropogenic sources of air contaminants that affect the air quality of the study area, including industrial emissions, mobile

Table 5
National Ambient Air Quality Standards

POLLUTANT	STANDARD VALUE	STANDARD TYPE
Carbon Monoxide (CO)		
8-hour average	09ppm (10mg/m ³)**	Primary
1-hour average	35ppm (40mg/m ³)**	Primary
Nitrogen Dioxide (NO₂)		
Annual arithmetic mean	0.053ppm (100µg/m ³)**	Primary and Secondary
Ozone (O₃)		
1-hour average*	0.12ppm (235µg/m ³)**	Primary and Secondary
8-hour average*	0.08ppm (157µg/m ³)**	Primary and Secondary
Lead (Pb)		
Quarterly average	1.5µg/m ³	Primary and Secondary
Particulate<10 micrometers (PM-10)		
Annual arithmetic mean	50µg/m ³	Primary and Secondary
24-hour average	150µg/m ³	Primary and Secondary
Particulate<2.5 micrometers (PM-2.5)		
Annual arithmetic mean	15µg/m ³	Primary and Secondary
Sulfur Dioxide (SO₂)		
Annual average mean	0.03ppm (80µg/m ³)**	Primary
24-hour average	0.14ppm (365µg/m ³)**	Primary
3-hour average	0.50ppm (1300µg/m ³)**	Secondary

Source: Environmental Protection Agency, Aerometric Information Retrieval System, 1999.

Legend:
 ppm = parts per million
 mg/m³ = milligrams per cubic meter
 µg/m³ = micrograms per cubic meter

* The ozone 1-hour standard applies only to areas that were designated nonattainment when the ozone 8-hour standard was adopted in July 1997.

** Parenthetical value is an approximate equivalent concentration.

(vehicular) emissions, area source emissions (i.e., emissions from numerous residences and small commercial establishments in an urban setting), dust resulting from wind erosion of agricultural disturbed lands and unpaved roads, and pollutants transported into the region on winds blowing from major urban/industrial areas outside the region.

3.5.3 Ambient Air Quality Monitoring/Status

Very little information concerning levels of hazardous or toxic air pollutants exists for the Lower Rio Grande Valley because very little monitoring of non-criteria pollutants has been conducted. Currently, ambient air quality monitoring data is limited to the Brownsville-Harlingen-San Benito MSA (Metropolitan Statistical Area) (Region 15). In 1995 the Brownsville Station (C 80) did not exceed the NAAQS standards for ozone, carbon monoxide, sulfur dioxide, particulate matter, and lead. Nitrogen dioxide was not measured (TNRCC 1997). Cameron County is designated either as in attainment or unclassified for the criteria pollutants (TNRCC 1999 and AIRSData 1999). Therefore, it can be concluded that concentrations of the criteria pollutants within the study area fall below the applicable NAAQS established for the protection of public health.

3.6 Water Resources

The Texas Natural Resource Conservation Commission (TNRCC) is the regulatory body in the state of Texas that is in charge of surface water quality and designation of uses. The TNRCC Surface Water Quality Monitoring Program (SWQMP) recognizes the geologic and hydrologic diversity of the state by dividing major river basins, reservoirs, bays, and estuaries into defined segments (referred to as classified segments). The study area is located in parts of stream segment 2302. This segment is designated as "Rio Grande Below Falcon Reservoir" and is a 231 mile section that extends from a point south (6.7 miles) of Brownsville, Texas, northward to Falcon Dam in Starr County. Flow to this segment is mostly regulated by releases from International Falcon Reservoir (TNRCC 1996a), although several uncontrolled streams flow into this segment. Flows from the Rio San Juan and the Rio Alamo enter the Rio Grande downstream of International Falcon Dam, as well as local runoff along the river channel below Falcon Dam. Segment-specific desirable uses (fully, partially, or non-supporting) are assigned by the TNRCC.

The TNRCC sets numerical water quality criteria to ensure protection for some assigned uses. The Texas Surface Water Quality Standards (TAC 307.1-307.10) contain general standards that apply to all surface

waters in the state, and segment-specific standards which identify appropriate uses (aquatic life, contact or non-contact recreation, drinking water, etc.) and designate upper and lower limits for common indicators (criteria) of water quality, such as dissolved oxygen, temperature, pH, dissolved minerals, and fecal coliform bacteria. The standards also establish criteria and control procedures for specific toxic substances and total toxicity (TNRCC 1997).

3.6.1 Water Quality

Water quality data is collected from a series of monitoring stations by the TNRCC SWQMP and by the US Geological Survey's (USGS) National Stream Quality Accounting Network (NASQAN) program. There are 11 monitoring stations for Segment 2302.

According to the most recent State of Texas Water Quality Inventory (1996) for the Rio Grande Basin, segment 2302 has elevated fecal coliform levels, causing non-support (more than 25 percent of water samples exceed criterion) of the contact recreation use in the segment. Other uses (high aquatic life and public water supply) and water quality standards are supported (TNRCC 1996c).

Sources of contamination within this reach consist of urban/stormwater runoff from Texas and Mexico, agricultural runoff, and wastewater discharge. The numerous maquiladoras (Mexican product assembly plants) located along the border probably contribute to the contamination in the area (USIBWC 1998).

3.6.2 Surface Water Uses and Yields

Surface water usage in Cameron County is quantified in Table 6. The major use of Rio Grande water in the Lower Rio Grande Valley is for irrigation purposes, followed by municipal uses.

Table 6
Surface Water Uses and Quantities Used in Cameron County
between 1993 and 1997 (quantities are in ac-ft)

Year	Population	Municipal	Manufacturing	Power	Irrigation	Livestock
1993	284,392	50,838	766	1,824	253,613	1,293
1994	292,474	49,646	900	2,426	400,279	815
1995	300,385	55,179	880	2,309	439,846	908
1996	312,064	48,958	977	1,755	311,381	812
1997	316,542	49,113	1,300	2,600	270,931	989

Source: TWDB 1997

3.6.3 Groundwater

The major aquifer within the Lower Rio Grande Valley is the Gulf Coast Aquifer that ranges in age from Miocene to Recent (Muller and Price 1979). The formations that comprise the aquifer consist of the Catahoula, Oakville, Lagarto, Goliad, Willis, Lissie, and Beaumont Formations, as well as overlying surficial deposits. The Pliocene-age Goliad Formation and Quaternary-age sediments form two major hydrogeologic units. The Goliad Formation, and some sands of the underlying upper Miocene, form the Evangeline aquifer. The younger, Quaternary-age deposits that overlie the Goliad Formation comprise the Chicot aquifer. Both the Evangeline and Chicot aquifers yield moderate to large quantities of fresh to moderately saline waters to wells in Cameron County (TNRCC 1994).

The aquifer consists of alternating beds of clay, silt, sand, and gravel that are hydrologically connected to form a large, leaky artesian system. Water quality in areas of Cameron County is generally between 1,000 and 1,500 milligrams per liter (mg/l) dissolved solids (TNRCC 1994). Problems related to withdrawal of ground water from the Gulf Coast aquifer includes land-surface subsidence, increased chloride content in the groundwater of the southwest portion of the aquifer, and saltwater encroachment along the coast (Muller and Price, 1979).

In Cameron County, the major source of groundwater is the Lower Rio Grande Valley Alluvium Aquifer, which consists of recent deposits of unconsolidated sands, silts, gravels, and clays. The aquifer is proximate to the Rio Grande and occurs in an area bounded by the river on the south and Highway 83 on the north. It is over 300 feet thick near Brownsville (USACE, 1998).

Water in the Lower Rio Grande Valley Alluvium Aquifer is characterized by high concentrations of chloride, dissolved solids, boron, and sodium. The water does not meet U.S. Public Health Service standards for drinking water quality.

3.6.4 Waters of the United States and Wetlands

No potential jurisdictional wetland habitat or Waters of the United States were identified within the proposed ROW of the proposed road construction activities. However, some levee segments (e.g., near River Bend Golf Community) are adjacent to drainages that could be classified as a Waters of the United States (Photograph 6). Construction activities in these areas would need to be careful to ensure no fill

activity occurs within these waters. No road improvements would take place within wetland habitat along the Rio Grande or its adjacent riparian habitat.

3.7 Socioeconomics

For purposes of this EA, demographic and economic characteristics of the socioeconomic study area, comprised of Cameron County, are presented in this section. The information for this section was gathered from publications of the U.S. Department of Commerce Bureau of the Census (U.S. Census), Texas State Data Center (TSDC), Texas Workforce Commission (TWC), and Texas Water Development Board (TWDB).

Much of the relevant data on demographics is provided by the U.S. Census. Although only conducted every ten years, the U.S. Census provides the most accurate and detailed information for the years that data was acquired. In addition, the U.S. Census provides the basis for most projections and estimates prepared by agencies such as the TWDB and the TSDC.

3.7.1 Population and Demographics

Population growth in this region of southern Texas is expected to experience tremendous growth over the next 20 years; Cameron County's population is projected to increase by 82 percent during the period 1990-2020, almost doubling its population by 2020.

In addition to its high rate of growth, the population within Cameron County fluctuates seasonally due to "Winter Texans." Winter Texans consist largely of retired persons from the mid-western states attracted to the mild winter climate of the southern United States. Since they are not permanent residents of the area, Winter Texans are not included in the census for this area.

Over 212,000 Hispanics reside in Cameron County, the majority, (82 percent) of the population. Whites represent 17.6 per cent with 45,741 persons (U.S. Census 1990).

3.7.2 Economics

According to a 1999 report published by the Texas Comptroller, a major portion of Cameron County's economic support comes from trade, manufacturing, services, and agricultural employment. The North American Free Trade Agreement (NAFTA), implemented in 1994, has removed many barriers to trade

and investment along the US-Mexico border and strengthened economic ties between Texas and Mexico. The volume of trade between Texas and Mexico has increased by 194 percent, from \$9.3 billion in 1988 to \$27.4 billion in 1996. Texas exports accounted for nearly half of all trade with Mexico in 1996. The ports located in Cameron County (Brownsville) are among the busiest trade ports on the border. Although many of the industries, such as manufacturing, retail, transportation, services and government services have benefited and generated additional jobs from trade with Mexico, some of the state's and region's industry sectors face import competition from producers south of the border.

Cameron County leads production in cotton and sorghum (Texas Comptroller 1999). Tourism also contributes to the region's economy. Cameron County is a year-round resort area for fishing, hunting, water sports, historical sites, and is a gateway to Mexico. Major recreational activities are centered in and around South Padre Island and Laguna Atascosa National Wildlife Refuge.

3.7.3 Employment

The labor force in the county and the socioeconomic study area is expected to increase congruent with the population. Presently, the Cameron County economy is growing at a rapid rate as a result of the NAFTA, with growth linked largely to manufacturing and exports. Average annual employment growth rates attributable to Texas exports to Mexico are estimated at 6.0 percent between 1990 and 1995 and 3.5 percent between 1995 through 2000 (TWC 1999). Although Cameron County has experienced job growth, this area consistently records higher unemployment rates than the state average. Cameron County and other counties near the Mexican border typically have the highest unemployment rates in the state, due in part to the large number of immigrants. Educational and language barriers reduce employment opportunities for this sector of the population. The lack of job opportunity can also be attributed to the fact that many jobs have moved to Mexico where labor is cheaper. However, Cameron County has experienced increases in the total employment since 1980. As shown in Table 7, 1997 estimates placed the Cameron County unemployment rate at 12.6 percent compared to the state unemployment rate of 5.4 percent, although total employment continues to rise (TWC, 1998).

3.7.4 Income and Housing

According to the TWC (1999), earnings by persons employed in Cameron County increased from \$2,390,008 in 1996 to \$2,563,813 in 1997, an increase of 7.3 percent. Median household incomes in Cameron County is \$17,336 compared to \$27,016 on the state level. Cameron County has been reported

to have 88,759 housing units available for occupancy, 83 percent of which were occupied in 1990. This rate is slightly below the state of Texas rate of 87 percent.

Table 7
Employment Data

	Percent Change				
	1980	1990	1998	1980-1990	1990-1998
Cameron County					
Labor Force	79,792	104,102	127,817	30.50	22.78
Total Employment	71,859	90,866	111,756	26.50	22.99
Unemployment Rate	9.90 %	12.70 %	12.60 %		
State of Texas*					
Labor Force	6,738	8,615	10,118	27.90	17.45
Total Employment	6,386	8,071	9,631	26.40	19.33
Unemployment Rate	5.20 %	6.30 %	4.8 %		

Source: TWC, 1999.

*(in 1,000s)

SECTION 4

ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Land Use

4.1.1 Proposed Action

Land use in the project area would not be affected by the proposed action since all construction activities will occur within existing road ROWs.

4.1.2 Alternative 1. No Action

Implementation of the No Action Alternative would have no effect upon the region's land use.

4.2 Soils

4.2.1 Proposed Action

Erosion in the immediate area of the ramps and would be stabilized, and in most cases revegetated. These actions will serve to reduce future erosion due to wind, water, and vehicular use. Soils along roads currently used for patrolling would benefit from natural revegetation, if these roads are abandoned (see Section 4.3.1.1, below).

4.2.2 Alternative 1. No Action

Soils and associated terrain in the project area, respective to ramps and levees, will remain in the existing condition. These conditions exhibit characteristics that are consistent with erosion due to traffic, water, and wind. These conditions pose safety concerns for both private citizens and law enforcement agencies that are active in the area. No benefits to soils would be derived by implementation of the No Action Alternative.

4.3 Biological Resources

4.3.1 Vegetation

4.3.1.1 Proposed Action

Improvement activities associated with the Proposed Action are limited to existing levee and access road ROWs and ramps. Therefore, no adverse effects to existing vegetation would be incurred.

Beneficial impacts, however, would occur as a result of this alternative. Approximately seven miles of roads would be abandoned and allowed to revegetate if the levee roads were improved. These roads, which primarily parallel the toe of the levee, are currently used to avoid severely eroded areas on the levee roads and to stage detection devices. Upgrading the levee roads to all weather road would obviate these roads. Assuming an average width of 10 feet, these roads could provide about 8.5 acres of additional habitat, which would be a net gain in habitat within the region. However, it should be noted that the USBWC annually mows the levee and an area 15 feet from the toe of the levee; so, the benefits of the revegetated, abandoned roads would depend upon their proximity to the toe of the levee.

In addition, improvements to the levee and access roads would allow several areas that have been widened by vehicular traffic to become revegetated. Such areas would serve as additional compensation for the areas disturbed by current activities. Photograph 7 illustrates a typical site that could be allowed to revegetate.

4.3.1.2 Alternative 1. No Action

Implementation of the No Action alternative would have no direct effects on vegetation communities. However, if the erosion situation was allowed to continue, and perhaps increase over time, plant communities would be converted to bare ground at the site of the erosion. Depending upon the severity of the erosion, sedimentation could occur downslope of the erosion and indirectly affect additional habitats. Furthermore, as roads become impassable, USBP agents would most likely try to find other routes while patrolling or apprehending illegal entrants; these "new" routes would cause more disturbances to vegetation communities. The magnitude of these effects are not known and would depend upon numerous biotic and abiotic parameters.

4.3.2 Wildlife

4.3.2.1 Proposed Action

In general, the Proposed Action will not pose significant adverse impacts on wildlife populations. Some disturbances to wildlife due to increased, but temporary, construction noises would occur. Since much of the area is within the Brownsville MSA and/or experiences daily vehicular traffic, the increases in noise would be insignificant. Some species, particularly less mobile amphibians and reptiles, may be lost during construction activities. These losses will not adversely affect the region's wildlife populations.

Conversely, wildlife populations would be beneficially impacted by the increase in habitat from abandoning and revegetating of several patrol roads. Over eight acres of additional grassland habitat could be created by this opportunity.

4.3.2.2 Alternative 1. No Action

No direct impacts, beneficial or adverse, would occur to wildlife populations as a result of the No Action alternative. The indirect loss of habitat, as described above in Section 4.3.1.2, would have synergistic effects upon wildlife. The magnitude of these effects are not quantifiable, since they would be dependent upon numerous biological, social, physical and economic variables.

4.3.3 Fish

No surface waters would be filled or dredged during the construction activities; therefore, no fish or other aquatic assemblages would be impacted by any of the alternatives. Stormwater runoff from construction sites would have high turbidity levels and low dissolved oxygen concentrations, which, could adversely impact aquatic ecosystems if the runoff is not managed properly. The SWPPP presented in Appendix A would be fully implemented and monitored during the construction phase to ensure best management practices are in effect.

4.3.4 Threatened or Endangered Species

4.3.4.1 Proposed Action

All construction activities would be conducted during daylight hours only and strict speed limits would be mandated by JTF-6 for the units performing the construction actions. Therefore, no effects would be expected to occur on the endangered cats during the construction period.

Some concern has been expressed that the proposed repair and maintenance activities to the USIBWC levee roads would allow higher speeds by USBP and other public or private vehicles and, thus, increase the chances of endangered cats being hit. However, roadkill incidents have occurred primarily along paved highways and roads where vehicle traffic and speeds are much higher than would be expected along the levee roads. Current road conditions do not allow sustained, safe driving speeds of 20 mph; the proposed actions would allow higher speeds, but USBP agents would drive at higher speeds only during extreme apprehension activities. Normal patrolling activities would typically be performed at speeds less than 20 mph. Abandonment and revegetation of the adjacent patrol roads would preclude patrol efforts in areas that would have a greater potential to support endangered cats and focus the patrol efforts onto the levees where there is no suitable habitat for the cats. Therefore, repair of the levee roads would be expected to have no adverse effect to the endangered cats.

In addition, JTF-6 proposes, as a compensatory action, to establish an experimental strip of vegetation adjacent to or near the USIBWC wildlife corridor near the Fort Brown area. The strip would be revegetated with native thorny shrubs and cacti at high densities. The intent would be to create a natural barrier to illegal entrants while enhancing ocelot and jaguarundi habitat. If the Proposed Action is implemented, JTF-6 would coordinate with the US Fish and Wildlife Service, USIBWC, and other interested parties to design the barrier strip. Such coordination would ensure that the experimental strip of vegetation would have no adverse effect on any protected species in the area. These activities would be in compliance of Section 7.a.1 of the Endangered Species Act, which mandates that Federal agencies implement conservation measures to enhance protected species and their habitats. No dense vegetation is to be planted on the lands 75 feet from the water's edge because this area has been designated as a maintenance zone for the USIBWC. Areas north of the 75 feet maintenance zone will not impact the flood carrying capacity of the floodplain.

No impacts to other Federally listed species would occur as a result of the Proposed Action.

Although no state-listed species were observed during the field surveys, some individuals (e.g., Texas horned lizard) could be displaced or lost during the construction activities. Texas horned lizards are attracted to bare ground with gravel and probably use the levee and other patrol roads at various times. Vehicular traffic and heavy equipment operations may result in the death of some specimens that could not avoid these activities. However, it is unlikely that there would be a significant increases in such instances over the amount that occurs with normal, daily traffic.

4.3.4.2 Alternative 1. No Action

The No Action alternative would produce no direct adverse impact on Federal listed species. However, if USBP agents begin to use other off-road trails to avoid eroded areas, impacts to listed species could occur, although the likelihood of these impacts is not known.

Contact with both public and private vehicles will continue to affect individuals of Texas horned lizards since the lizards use the levee and patrol roads for hunting and resting activities.

4.3.5 Environmentally Unique and Sensitive Areas

4.3.5.1 Proposed Action

The access roads under consideration for the proposed project are part, or are proposed to be part, of the USBWC levee system, and as such, do not adversely impact any existing refuge, scenic area, or other type of wildlife sanctuary. Therefore, no impacts to any existing sensitive areas are foreseen at this time. Any access road that transects or parallels a parcel of the LRGVNR will require a right-of-way permit prior to initiation of the construction. In addition, revegetation plans to be coordinated by JTF-6 through a multi-agency contingent are expected to positively impact the surrounding wildlife by providing natural areas of native plants.

4.3.5.2 Alternative 1. No Action

The No Action Alternative would result in no maintenance and repair of levee or access roads in the project area. This alternative would therefore not allow multi-agency coordination of revegetation measures designed to attract native plants and animals to certain areas of the project which are proposed for abandonment.

4.4 Cultural Resources

4.4.1 Proposed Action

No cultural resources were located at any of the project sites during recent field surveys. Therefore, no impacts to historic or pre-historic properties are expected as a result of the proposed actions. It is recommended, however, that professional archaeologists inspect the upgrading activities on the Soledad Banco and Morales Banco access roads since these areas have potential to obtain cultural resources due to their proximity to cut banks of meander scars.

4.4.2 Alternative 1. No Action

No direct impacts to cultural resources would occur upon implementation of the No Action alternative. Indirect effects could occur if USBP agents began driving cross-country to avoid severely eroded patrol roads; the likelihood of these impacts can not be determined at the present.

4.5 Air Quality

Cameron County is located within EPA's Region 6 and is currently in attainment or unclassified with established national and state air quality standards for all criteria pollutants (EPA 1999). The short duration of construction activities, the type of equipment used, and the good dispersion patterns of the region, indicate that air emissions would not be created that would jeopardize the attainment status of the Cameron County and, thus, a conformity analysis is not required for implementation of the proposed action.

4.6 Water Resources

4.6.1 Proposed Action

The proposed project area is located adjacent to TNRCC designated segment 2302 of the Rio Grande. The primary concern in this segment is fecal coliform bacteria, and as a result, contact recreational use is not supported. Portable toilets will be provided and maintained in the field and at the bivouac site by licensed contractors. Therefore, no additional sewage will be discharged to the Rio Grande as a result of the Proposed Action, which would exacerbate the high fecal coliform concentrations. The Stormwater Pollution Prevention Plan (Appendix A) will be adhered to throughout the construction activities to

ensure that stormwater drainage is controlled to the maximum extent practicable. The majority of the construction activities are more than 100 meters from the Rio Grande and the dense grasses between the construction sites and Rio Grande will assist in the mitigation of stormwater effects.

The Proposed Action will temporarily increase the demand for potable and non-potable water supplies. Local and regional supplies have ample capacities to meet this demand, however, and thus would not be significantly affected.

4.6.2 Alternative 1. No Action

The No Action alternative would not have a direct impact on either the water quality or supply in the project area. If erosion is allowed to continue, and USBP begin creating new patrol routes to avoid the eroded sites, additional erosion problems could be created. The magnitude of these effects would depend upon the rate of increase in current erosion and the location of new patrol routes relative to the Rio Grande and other drainages.

4.6.3 Waters of the United States and Wetlands

None of the alternatives would impact jurisdictional wetlands or waters of the United States, provided construction activities near River Bend Golf Community avoid the adjacent drainage. Therefore, a Section 404 permit application is not necessary for this project.

4.7 Socioeconomics

4.7.1 Proposed Action

The proposed road improvement activities would result in direct economic benefits to the businesses involved in providing construction materials and would indirectly benefit the local economy. Long term population levels would not be affected by the Proposed Action. The local population would increase temporarily as personnel are brought in to work on the project. However, upon project completion, the service personnel would return to their respective installations. As a result, no permanent population migration in or out of the area is anticipated.

The total project costs are not available at this time, however, similar construction projects have been performed in the area. Due to the relative size of the local economy, this project would be expected to

provide a positive, but insignificant economic stimulus. The effects from this type of construction would easily be absorbed by the regional economy.

Increasing the efficiency and effectiveness of the USBP detection, deterrence, and apprehension efforts would have indirect, beneficial socioeconomic effects upon the region. Although these effects are difficult to quantify, better law enforcement would be expected to lower thefts and other losses to personal property, social costs associated with illegal drug control and rehabilitation, and insurance rates.

4.7.2 Alternative 1. No Action

The negative impacts of widespread drug use on society continue to affect the work force, educational system, general law and order, and traditional family values and structure (Office of National Drug Control Policy, 1998 and 1999). If the No Action alternative is implemented, USBP patrol and enforcement efforts will be hindered and illegal entrants will continue to rise, resulting in additional costs to social programs such as welfare, medical, education. In addition, repair and maintenance costs of USBP vehicles will continue to rise if the vehicles are driven on eroded roads or cross-country to avoid the eroded areas.

4.7.3 Environmental Justice

Executive Order 12898 of February 11, 1994, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires each Federal agency to identify and address, as appropriate, disproportionate adverse effects of its proposed actions on minority populations and low-income communities. As indicated previously in Section 3.7, high minority populations characterize Cameron County. The economic status and population density or composition of the communities within Cameron County do not differ greatly among cities of comparable size within the entire border area. Therefore, implementation of any of the alternatives would not be expected to disproportionately affect minority and/or low-income populations. In addition, the proposed action would not alter USBP operations in the area, but would enhance their probability of success. The USBP success in deterring and controlling illegal drug trafficking would be beneficial to all area populations, regardless of income levels, nationality or ethnicity.

4.8 Cumulative Impacts

The Council on Environmental Quality defined cumulative impact as the incremental impact of multiple present and future actions with individually minor, but collectively significant effects. Cumulative impact can be concisely defined as the total effect of multiple land uses and developments, including their interrelationships, on the environment (Bain *et al.* 1986).

In order to evaluate cumulative effects of the past and present border road and fence repair projects, EAs from previous and current border road repair operations in the region, and the Programmatic Environmental Impact Statement (1994) developed for all JTF-6 activities along the United States-Mexico border were reviewed. An analysis of each component of the affected environment was completed from the existing EAs in order to identify which would have cumulative impacts as a result of the past and proposed road and fence construction activities.

The primary cumulative effect of the past and proposed road and fence projects is permanent loss of vegetation and associated wildlife habitat. Throughout the entire United States-Mexico border (California to Texas), a total of about 3,000 acres of vegetation, mostly semi-desert grassland and desert scrub communities, has been removed by JTF-6 road, training ranges, fence, and helipad repair and construction activities. This represents less than 0.01 percent of the total land area within the area along the entire United States - Mexico border. Air emissions have been produced by vehicles, aircraft, and heavy equipment; however, these have not resulted in significant cumulative impacts due to the short duration of the activities, the dispersion capabilities of the region, and the remote locations of most of the operations.

Many positive cumulative impacts have also been realized through other JTF-6 activities throughout the southwestern United States. Soil losses have been reduced through the implementation of erosion control measures. Although the amount of soils saved is not quantifiable, JTF-6 operations have reduced extant erosion problems in numerous locations, such as Laredo, Texas; Otay Mesa, California; and Douglas, Arizona. Construction and maintenance activities have had cumulative positive impacts on socioeconomic resources within the border area and the nation through reductions in illegal drug smuggling activities. Additionally, a vast amount of environmental and cultural resource baseline data have been gathered during the production of environmental documents such as site specific environmental assessments and environmental impact statements.

The proposed action is a component of the USBP's Operation Rio Grande (ORG), which implements an enforcement strategy to control illegal entrants within the McAllen Sector. Operation Rio Grande

includes installation of a variety of infrastructure (lighting, fencing, boat ramps, road improvements, and Integrated Surveillance Intelligence Systems) to enhance the USBP's ability to detect, deter and apprehend illegal drug traffickers and undocumented aliens. Construction of this infrastructure was addressed in a separate EA that was released to the public in June 1999 (USACE, 1999). Since then, INS has decided to go forward with an Environmental Impact Statement (EIS) rather than publish a final EA. The Notice of Intent to prepare an EIS was published in the *Federal Register* on 2 February 2000.

The proposed activities comprising the ORG were envisioned to be implemented as needed based upon enforcement intelligence data and as funding became available. The current conditions of the levee roads necessitated that repair and maintenance activities be completed as soon as possible to ensure the safety of the USBP agents and to enhance their effectiveness in their patrol efforts. However, funding was not available for the complete road improvements actions contained in ORG; thus, the McAllen Sector issued a Support Request to JTF-6 through Operation Alliance for only those proposed in this EA.

The cumulative impacts of ORG will be disclosed in the EIS, since specific descriptions of other components are being formulated and, thus, can not be addressed in this document at the present time. However, it is currently envisioned that the majority of the ORG proposed road improvements throughout the McAllen Sector would be limited to upgrade and repair of existing roads. Therefore, minimal impacts to vegetation, sensitive wildlife habitat and wildlife populations would be expected. Relative to this specific project, abandonment and revegetation of the patrol roads along the toe of the levees would result in a gain of over eight acres of grassland habitat.

The USFWS is currently acquiring private lands in the project vicinity in an effort to expand the Lower Rio Grande Valley NWR, with the specific emphasis of providing suitable habitat for the endangered cat species. The proposed action would not affect the USFWS plans to acquire additional lands or expand wildlife habitat. In fact, JTF-6 would coordinate with the appropriate agencies to develop a strip of dense vegetation adjacent to or near the USIBWC wildlife corridor in an attempt to create an impenetrable natural barrier. This strip would increase the effectiveness of the wildlife corridor in an attempt to provide suitable habitat for the endangered cat species. The size (acreage), location and design of the barrier strip would be determined at a later date and coordinated with USFWS, USIBWC and other interested parties. Consequently, the cumulative effect of the proposed action would be a net benefit to wildlife populations in general and to the endangered cats in particular.

The USIBWC is currently mowing about 238 acres along the river bank near Brownsville on an annual basis. These activities are being performed in accordance with a Biological Opinion that was issued by

the USFWS in 1993, after formal consultation between USIBWC and USFWS. The USIBWC is currently preparing an EIS to address potential effects of the Lower Rio Grande Flood Control Project that encompasses all or parts of Starr, Hildago, Cameron and Willacy counties. Alternatives that will be considered in this EIS include the current mowing/maintenance practices, expanding and maintaining certain areas along the river, relocating flood control levees, raising flood control levees, providing channel improvements to the Rio Grande, and/or diverting floodwaters to storage areas. Implementation of the USIBWC project could affect up to 2,300 acres of land, depending upon the alternative selected. However, as currently envisioned, levee modifications would not be necessary in the Brownsville area to convey the project design flood flows. The levee road repair and maintenance activities proposed by JTF-6 would not require clearing vegetation within the flood control system. Consequently, neither of these proposed projects would affect the other and implementation of the proposed JTF-6 levee road actions would create only negligible cumulative effects. These effects would be due primarily to the access road improvements that would occur on the outside of the levee system.

Agricultural practices and urban development in the Rio Grande Valley has been the primary reason for decline in wildlife habitat and the synergistic effects to the protected species. Most farmland that has a potential to feasibly produce crops has already been placed in production. Consequently, very little, if any, additional lands are expected to be cleared for agricultural purposes. In fact, some of the lands that the USFWS has considered for acquisition are farmlands that would require revegetation with native plant species. Urban development, on the other hand, will continue to encroach upon native habitat, particularly around or near any new international bridges. The magnitude of these effects will be dependent upon the development plans and designs, enforcement capabilities of the planning commissions and other governmental agencies.

SECTION 5
ENVIRONMENTAL DESIGN FEATURES

5.0 ENVIRONMENTAL DESIGN MEASURES

5.1 Protected Species

No Federal or state protected species were found and no supporting habitat (with the exception of Texas horned lizard) was identified within the project areas; therefore, no effects to protected species populations are expected. However, JTF-6 plans to design and implement an experimental strip of dense, thorny vegetation in the Fort Brown area. This strip of vegetation is expected to develop into a natural, impenetrable barrier to illegal entrants that would also be suitable habitat for the endangered ocelot and jaguarundi. The design, species, and location of the strip will be coordinated through the US Fish and Wildlife Service, USIBWC and other pertinent agencies and organizations. JTF-6 would seek the cooperation and participation of the USFWS, USIBWC, TPWD, and other interested agencies and organizations, as appropriate, to enhance the potential for success of the experimental vegetated strip. No dense vegetation is to be planted on the lands 75 feet from the water's edge because this area has been designated as a maintenance zone for the USIBWC. Areas north of the 75 feet maintenance zone will not impact the flood carrying capacity of the floodplain.

In addition, JTF-6 would coordinate with the USFWS and USIBWC to implement enhancements (e.g., diversion fences) to reduce the chances of the endangered cats from being struck by vehicles and/or to provide protected travel corridors.

5.2 Cultural Resources

Monitors should be used during the construction activities along the Soledad Banco and Morales Banco access roads. Although no cultural resources were found during recent field surveys, these access roads are located along the cut banks of two meander scars, which are considered high probability areas.

5.3 Air Quality

Due to good wind dispersion patterns in the area and the limited use of heavy construction equipment, there is likely to be minimal adverse affect on the air quality in the local and regional environment.

5.4 Water Resources

A Stormwater Pollution Prevention Plan has been developed (see Appendix A) and shall be adhered to during all phases of construction. Minor soil erosion and displacement will likely occur due to construction activities, but will not likely adversely affect the local or regional water quality and supplies.

SECTION 6
PUBLIC INVOLVEMENT

6.0 PUBLIC INVOLVEMENT

6.1 Agency Coordination

This chapter discusses consultation and coordination that occurred during preparation of the draft and final versions of this document. This will include contacts that are made during the development of the proposed action and writing of the EA. Formal and informal coordination was conducted with the following agencies:

- U.S. Army Corps of Engineers (Ft. Worth and Galveston Districts)
- Immigration and Naturalization Service (INS)
- U.S. Border Patrol (USBP)
- U.S. Section, International Boundary and Water Commission
- U.S. Fish and Wildlife Service (USFWS)—informal consultation only; formal Section 7 consultation is not required
- U.S. Environmental Protection Agency (EPA)
- Texas Parks and Wildlife (TPWD)
- Texas Natural Resources Conservation Commission (TNRCC)

The preliminary draft EA was submitted to several agencies for review and coordination prior to release of the public draft EA. The purpose of this review was to ensure that significant issues were resolved before the proposed action was made public. Two letters were received from the USFWS and one from the USIBWC during the agency review. The USFWS comments focused on the potential effects to endangered cat species and rights-of-way permits that are necessary for actions on national wildlife refuges. The USIBWC's comments clarified ownership of portions of the flood control levees and identified approvals that are required prior to construction activities within the floodplain or on the levees. Appropriate revisions were made to the preliminary draft EA in response to these comments.

Copies of these letters are included in Appendix C.

6.2 Public Review

The draft EA was made available for public review on February 7, 2000 for a period of 30 days. The Notice of Availability (NOA) was published in the *Brownsville Herald*. Copies of the draft EA were sent

to Federal and state agencies, interested parties, and regional libraries. Only one letter was received during the comment period. This letter was from the USFWS (Appendix C) and indicated that the Service's original concerns expressed during their review of the preliminary draft had been addressed.

SECTION 7 REFERENCES

7.0 REFERENCES

- International Boundary and Water Commission, United States and Mexico. 1998. Second Phase of the Binational Study Regarding the Presence of Toxic Substances in the Rio Grande/Rio Bravo and its Tributaries Along the Boundary Portion Between the United States and Mexico. Volume I of II, Final Report 56 pp.
- Jahrsdoerfer, S.E. and D. M. Leslie, Jr. 1988. Tamaulipan Brushland of the Lower Rio Grande Valley of South Texas: Description, Human Impacts, and Management Options. U.S. Fish and Wildlife Service, Biological Report 88(36) 63 pp.
- Muller, Daniel A. and Robert D. Price. 1979. Groundwater Availability in Texas: Estimates and Projections through 2030. Texas Department of Water Resources Report 238. 77 pp.
- Regional Economic Information System. 1998. Regional Economic Information for Cameron County, Texas. Internet Website: <http://govinfo.library.orst.edu>.
- Texas Comptroller of Public Accounts. 1999. Lower Rio Grande Valley Economic Profile. Internet address <http://www.window.state.tx.us/ecodata/regional/lrg.html>
- Texas Natural Resources Conservation Commission. 1994. 1994 Regional Assessment of Water Quality in the Rio Grande Basin. Water Management Division. Austin, Texas.
- Texas Natural Resources Conservation Commission. 1995. Air Quality Data Summaries, Data Management Unit of TNRCC.
- Texas Natural Resources Conservation Commission. 1996a. Texas Water Quality: A Summary of River Basin Assessments. Texas Clean Rivers Program. Austin, Texas.
- Texas Natural Resources Conservation Commission. 1996b. 1996 Regional Assessment of Water Quality in the Rio Grande Basin. Border Environmental Assessment Team, Office of Water Resource Management. Austin, Texas.
- Texas Natural Resources Conservation Commission. 1996c. The State of Texas Water Quality Inventory 1996. Volume 4. Surface Water Quality Monitoring Program. Austin, Texas.
- Texas Natural Resources Conservation Commission. 1997. Air Monitoring Report 1995. Monitoring Operations Division. Austin, Texas.
- Texas Natural Resources Conservation Commission. 1998. Texas Attainment Status. Data Management and Analysis Division. Austin, Texas.
- Texas Natural Resources Conservation Commission. 1999. Office of Water Resource Management. TNRCC Website. tnrcc.state.tx.us/cgi-bin/water/.
- Texas Parks and Wildlife Department (TPWD). 1998. Latest Revised Special Species List for Cameron County, Texas. Revised 27 March 1998.
- Texas Parks and Wildlife Department (TPWD). 1999. Annotated County Lists of Rare Species (Cameron County). TPWD unpaginated last revision April 29, 1999.

- Texas Workforce Commission. 1999. Cameron County Civilian Labor Force Estimates. Internet Website: <http://www.twc.state.tx.us>.
- U.S. Army Corps of Engineers, 1998. Final Programmatic Environmental Impact Statement for International Bridge Crossings along the United States-Mexico Border from El Paso to Brownsville, Texas. Fort Worth District, Fort Worth, Texas.
- U.S. Border Patrol. 1999. Apprehension and Drug Seizure Data for Brownsville Station. Mr. Mario Garcia, USBP McAllen Sector Intelligence Headquarters. McAllen, Texas.
- U.S. Bureau of the Census. 1991. 1990 U.S. Census Data, Database: C90STF1A, Summary Level: State—County, Internet Website : <http://venus.census.gov/cdrom/lookup/919440640>.
- U.S. Bureau of the Census. 1999. Population Estimates Program, Statistical Information Staff, Population Division, U.S. Bureau of the Census, Washington D.C.
- U.S. Bureau of the Census. 1999. Small Area Income and Poverty Estimates Program, Statistical Information Staff, Population Division, U.S. Bureau of the Census, Washington D.C.
- U.S. Department of Agriculture. 1992. Land Cover/Use of Non-Federal Land and Small Water. National Resources Inventory, Soil Conservation Service, Temple, Texas.
- U.S. Environmental Protection Agency. 1999 Air Quality Profile for Cameron County, Texas. EPA Website, tree2.epa.gov/
- U.S. Fish and Wildlife Service (USFWS). 1999. Southwest Region Species List for Cameron County, Texas. [http://ifw2es.fws.gov/Endangered Species/lists/ListSpecies.cfm](http://ifw2es.fws.gov/Endangered%20Species/lists/ListSpecies.cfm). 14 June 1999.

SECTION 8

LIST OF ACRONYMS & ABBREVIATIONS

8.0 LIST OF ACRONYMS/ABBREVIATIONS

ac-ft	acre-feet
CASAC	Clean Air Scientific Advisory Committee
CFR	Code of Federal Regulations
CO	Carbon monoxide
DoD	Department of Defense
EA	Environmental Assessment
E.O.	Executive Order
EPA	U.S. Environmental Protection Agency
GIS	Geographic Information System
GPS	Global Positioning System
GSRC	Gulf South Research Corporation
INS	Immigration and Naturalization Service
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
JTF-6	Joint Task Force Six
LEA	Law Enforcement Agencies
LRGVNWR	Lower Rio Grande Valley National Wildlife Refuge
µg/l	Micrograms per liter
mg/l	Milligrams per liter
µg/m ³	Micrograms per cubic meter
mg/m ³	Milligrams per cubic meter
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NAFTA	North American Free Trade Agreement
NASQAN	National Stream Quality Accounting Network
NDCS	National Drug Control Strategy
NEPA	National Environmental Policy Act of 1969
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service (formerly Soil Conservation Service)
NWP	Nationwide Permit
NO ₂	Nitrogen Dioxide
NOA	Notice of Availability
OAQPS	Office of Air Quality Planning and Standards
O ₃	Ozone
PM ₁₀	Particulate matter
PCPI	Per Capita Personal Income
Pb	Lead
POE	Port of Entry
ppm	Parts per million
PSI	Pollutant Standards Index
ROI	Region of Influence
ROW	Right-of-way
S ₀₂	Sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Surface Water Quality Monitoring Program
TAC	Texas Administrative Code
TNRCC	Texas Natural Resources Conservation Commission
TPWD	Texas Parks and Wildlife Department
TPI	Total Personal Income

TSDC	Texas State Data Center
TWDB	Texas Water Development Board
TWC	Texas Workforce Commission
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USIBWC	U.S. Section, International Boundary and Water Commission

SECTION 9
LIST OF PREPARERS

9.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Assessment.

NAME	AGENCY/ORGANIZATION	DISCIPLINE/EXPERTISE	EXPERIENCE	ROLE IN PREPARING EA
Linda Ashe	USACE, Ft. Worth District	Biology/Aquatic Ecology	5 years EA/EIS and related studies	Contract manager and EA review and coordination
Milton Blankenship	JTF-6	Geology/Hazardous Materials	15 years geology, HAZMAT management, and geo-hydrology	EA coordination and review
Chris Ingram	Gulf South Research Corporation	Biology/Ecology	22 years EA/EIS studies	Project Manager
Jerry Bolton	Gulf South Research Corporation	Biology/Ecology	13 Years EA/EIS studies	Field surveys
Dwayne Templet	Gulf South Research Corporation	Forestry/NEPA Coordination	8 years EA/EIS studies	EA Review
John Lindemuth	Gulf South Research Corporation	Archaeology/Project Archaeologist	8 years archaeological studies	Cultural resources and socioeconomics
Sharon Newman	Gulf South Research Corporation	GIS/Graphics	6 years GIS experience	Graphics
Jay Cline	Gulf South Research Corporation	Biology/Ecology	3 years EA/EIS studies	Biological, air quality and water resources
Tonya Bolton	Gulf South Research Corporation	Biology/Wildlife Mgmt	1 year EA/EIS studies	Biological surveys, land uses, and T&E species
Carl Kuttruff	Gulf South Research Corporation	Archaeology/Project Archaeologist	27 years Archaeological studies	Cultural resources

APPENDIX A
STORMWATER POLLUTION PREVENTION PLAN

STORM WATER POLLUTION PREVENTION PLAN
FOR
PROPOSED JTF-6 LEVEE ROAD MAINTENANCE AND REPAIR PROJECT
NEAR BROWNSVILLE, TEXAS
CAMERON COUNTY, TEXAS

PREPARED BY
Resource Consulting LLC
7602 GSRI Avenue Suite 147
Baton Rouge, Louisiana 70820

December 1999

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

[illegible]

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ATTACHMENTS:

Attachment #1 - Notification Posting

Attachment #2 - Notice of Intent (NOI) for Construction Activity

Attachment #3 - Inspection and Maintenance Report Form (Rainfall Event)

Attachment #4 - Inspection and Maintenance Report Form (Sediment Basin)

Attachment #5 - Inspection and Maintenance Report Form (Changes)

Attachment #6 - Notice of Termination (NOT) for Industrial Activity

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1.0 INTRODUCTION

The Brownsville, Texas (TX) JTF-6 Road Improvement Project is located in Cameron County near the cities of Brownsville, Texas (Figure 1). Brownsville is located on the boarder of the Republic of Mexico along the Rio Grande River, and is approximately 130 miles south of Corpus Christi, Texas. In the Brownsville area, the road project occurs in the East Brownsville and West Brownsville, TX, 7.5' USGS quadrangle maps.

The proposed action consists of improving approximately 11 miles of roads on top of the U.S. Section, International Boundary and Water Commission's (USIBWC) flood control levees are proposed to be graded and resurfaced with caliche (Figure 2). These improvements are being proposed by the Joint Task Force Six (JTF-6) in response to a Support Request from the McAllen Sector, U.S. Border Patrol (USBP).

Owner: U.S. Border Patrol
 McAllen Sector

1.1 Description

This Environmental Assessment addresses the potential effects, beneficial and adverse, of the proposed road improvements near Brownsville, Texas. Approximately 11 miles of roads on top of the U.S. Section, International Boundary and Water Commission's (USIBWC) flood control levees are proposed to be graded and resurfaced with caliche. Other parts of the proposed actions include:

- (1) improving five access roads (approximately two miles in total length) to allow better access from paved highways to the USIBWC levee roads; and
- (2) improving six ramps to allow better access onto the USIBWC levees.

These improvements are being proposed by the Joint Task Force Six (JTF-6) in response to a Support Request from the McAllen Sector, U.S. Border Patrol (USBP). The remaining sections of this EA describe the purpose and need for the proposed improvements, alternatives considered during the preparation of the EA, existing conditions of the human and natural environment in the Brownsville region, and the anticipated impacts that would result from implementation of the proposed action.

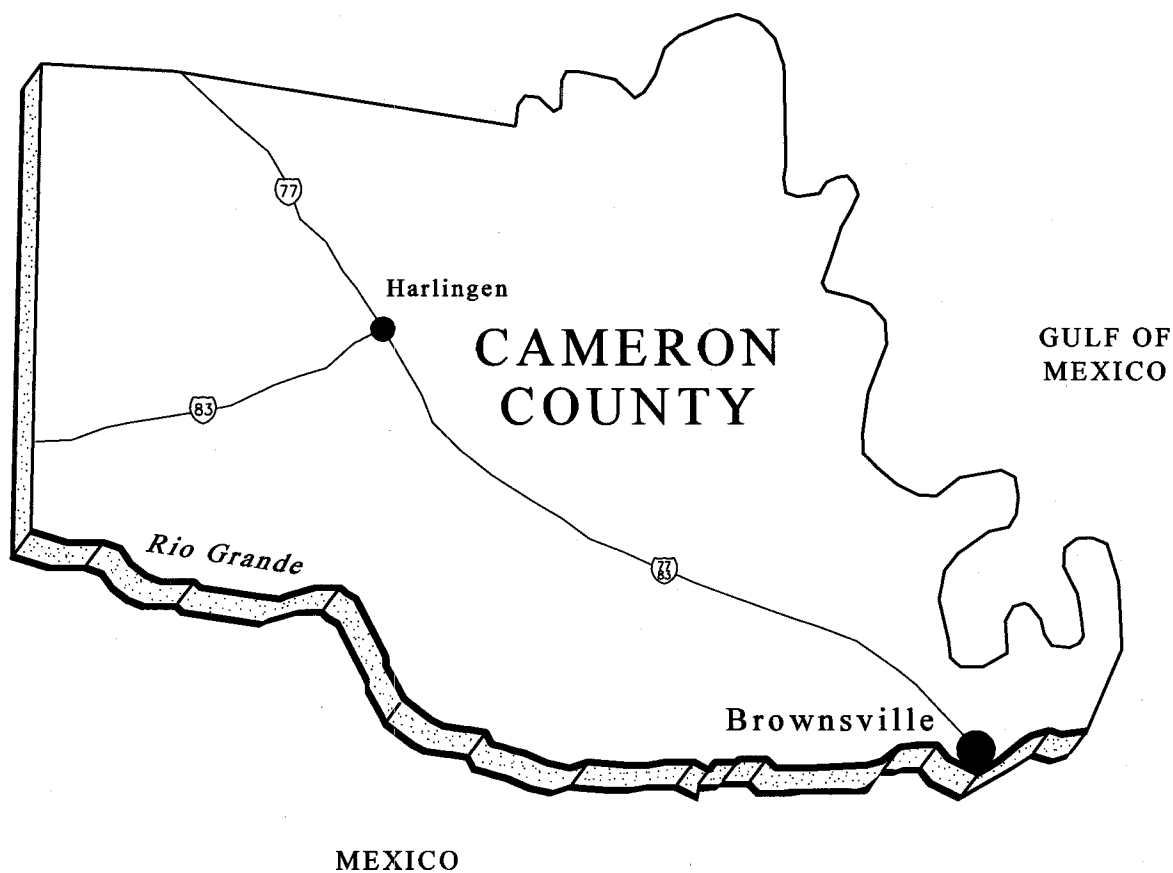
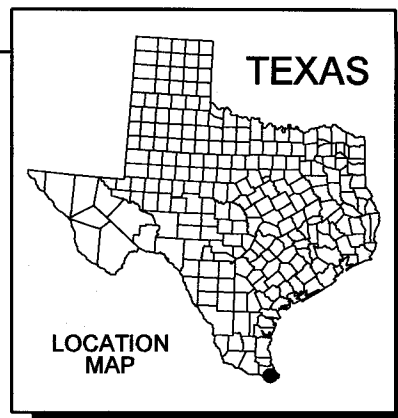
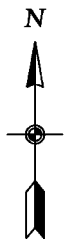


Figure 1: Vicinity Map

gsr/c / GULF SOUTH
RESEARCH
CORPORATION

SCALE: not to scale

DATE: December 1999



Figure 2: Project Location

USRC GULF SOUTH
RESEARCH
CORPORATION

SCALE: 1:72,150

DATE: JANUARY 2000

1.1.1 Soils and Soil Properties

The vegetation types of the project area are predominantly native and introduced grasses with scattered shrubs. Mean annual precipitation is approximately 26 inches.

There are approximately 11 soil types that may be encountered within the project area. The predominant soils of the project area fall into two hydrologic groups; Group B, and Group C.

Group B soils have a moderate infiltration rate when thoroughly wetted, are moderately deep to deep, moderately well drained to well drained, and are moderately fine to coarse textured. These soils have a moderate rate of water transmission, and a moderately low runoff potential.

Group C soils have a slow infiltration rate when thoroughly wetted, are chiefly soils that have a layer impeding downward movement of water, are moderately fine to fine textured, and have a slow infiltration rate. These soils have a slow water transmission rate, and a moderately high runoff potential.

The erodibility of the soils in the project area are estimated to have a rating as being slight to moderate due to irrigated crop primary usage. This indicates that protective and corrective measures are needed before and during the time of soil use. Table 1 shows the soil association, hydrologic group as determined by the Soil Conservation Service of the United States Department of Agriculture, for the major geologic associations in the project area.

Table 1
Soil Associations, Hydrologic Groups, and Erodibility
JTF-6 Road Improvement Project
Near Brownsville, Texas

Soils	Hydrologic Group	Erodibility
<p>Rio Grande-Matamoros Association: This association occupies a narrow band less than 2 miles wide adjacent to the Rio Grande. Rio Grande soils are in the higher well-drained areas adjacent to the river or old oxbows. Matamoros soils are in the nearly level, slack water areas. Rio Grande soils surface is light gray calcareous silt loam over stratified silt loam, silty clay loam, or very fine sandy loam. Matamoros soils surface is light brownish-gray, calcareous silty clay over stratified silt loam, silty clay loam, clay, or silty clay, being moderately well drained and slowly permeable.</p> <p>Soil series encountered within the project area are as follow:</p>		<p>Slight to Moderate</p>
<p>Camargo Series: consists of deep, well-drained, calcareous silty soils on the active floodplain of the Rio Grande. The surface is plane and slopes are mostly less than 1 percent. Camargo soils are light gray calcareous silt loam layer of about 8 inches, over a light gray and light brownish-gray stratified silty clay loam and silt loam.</p>	B	
<p>Grulla Series: consists of deep somewhat poorly drained, calcareous soils that are level and are in partly filled resacas on the active flood plain of the Rio Grande. The surface is grayish-brown, calcareous clay over light brownish-gray clay that contains weak stratification, loamy sediment and remnants of a buried former surface layer.</p>	D	
<p>Laredo Series: consists of deep well-drained calcareous soils that are nearly level to gently sloping on old flood plains and deltas. The surface is dark grayish brown, calcareous being silty clay loam in the upper part and silt loam in the lower part, over light brownish-gray silt loam, over stratified layers of light brownish-gray and light gray silt loam, silty clay loam, and very fine sandy loam.</p>	B	
<p>Matamoros Series: consists of deep moderately well drained calcareous soils that are nearly level on the active flood plain of the Rio Grande. The surface is light brownish-gray calcareous silty clay over brownish-gray clay, over brown silt loam, over grayish brown silty clay over light brownish-gray silty clay.</p>	C	
<p>Olmito Series: consists of deep poorly drained loose sands that are nearly level to gently sloping. The surface layer is calcareous silty clay being dark gray in the upper part and grayish brown in the lower part, over silty clay being dark brown in the upper part and light brownish gray in the lower part, over very pale brown silty clay.</p>	D	
<p>Rio Grande Series: consists of deep, well drained, calcareous soils that are nearly level to gently sloping, with plane or slightly convex surface, and are on the active flood plain of the Rio Grande. The surface is light-gray calcareous silt loam, over light-gray and very pale brown stratified silt loam, silty clay loam, and very fine sandy loam.</p>	B	

Sources: 1) Soil Conservation Service, 1977, General Soil Map Cameron County, Texas
2) Soil Conservation Service, 1977, Soil Survey of Cameron County, Texas

2.0 SEQUENCE OF MAJOR ACTIVITIES

The following major activities will be implemented to reduce sediment and other pollutants in storm water discharges:

- Sensitive areas containing cultural resource sites, unique habitats, rare and endangered plants and animals, and wetlands have been identified prior to the start of construction. These field-surveyed areas will be staked and flagged as areas not to be disturbed by BMP implementation and placement, repair, and/or construction activities.
- Grading and widening the existing roadbeds and filling with commercially purchased soil will be accomplished using motorized equipment.
- Five access roads will be improved to provide better access from paved highways.
- Six ramps will be constructed to allow better access onto the USIBWC levees.
- Straw bale check dams and/or siltation fencing, and/or other appropriate BMPs, will be installed at points of water conveyance to reduce slope erosion on the road construction areas and reduce sediment leaving the area. Figures 3 and 4 show typical erosion and sediment controls to be employed.

2.1 Controls

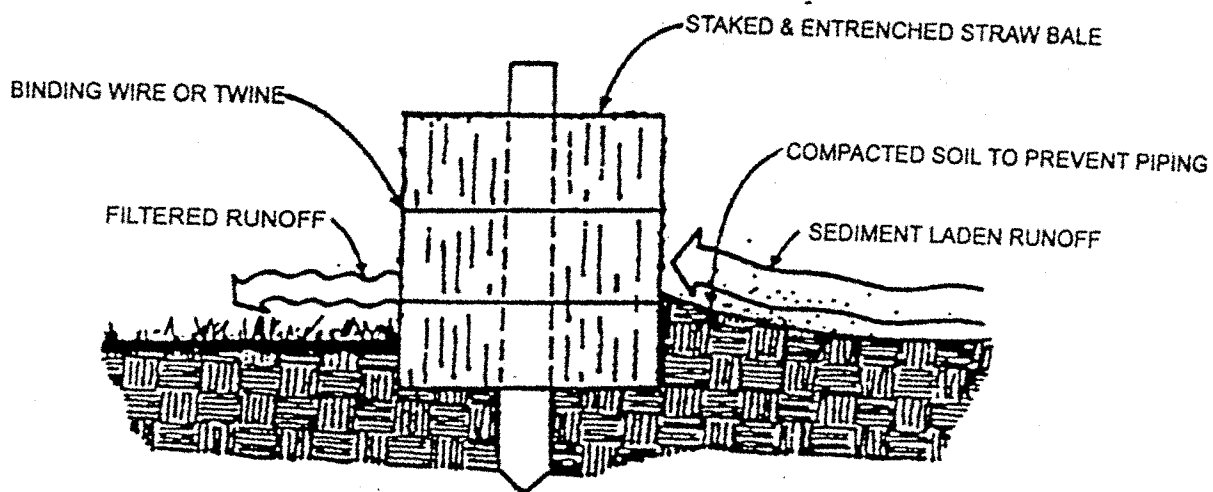
2.1.1 Erosion Sediment Controls

Storm Water Management:

Road Improvements will include grading and widening existing roadbeds and filling with commercially purchased soil. Where roads are widened, this material will be compacted to provide a relatively impermeable surface to reduce susceptibility to erosion. Bales of straw and/or a siltation fence will be staked in low areas to control surface water and sedimentation at points of conveyance and to reduce velocity of waters discharged. Also, interceptor dikes/swales, pipe slope drains, and other appropriate erosion and sediment control measures may be used as applicable for access roads and for ramps to the levees. Figures 3 and 4 show typical erosion and sediment controls to be employed.

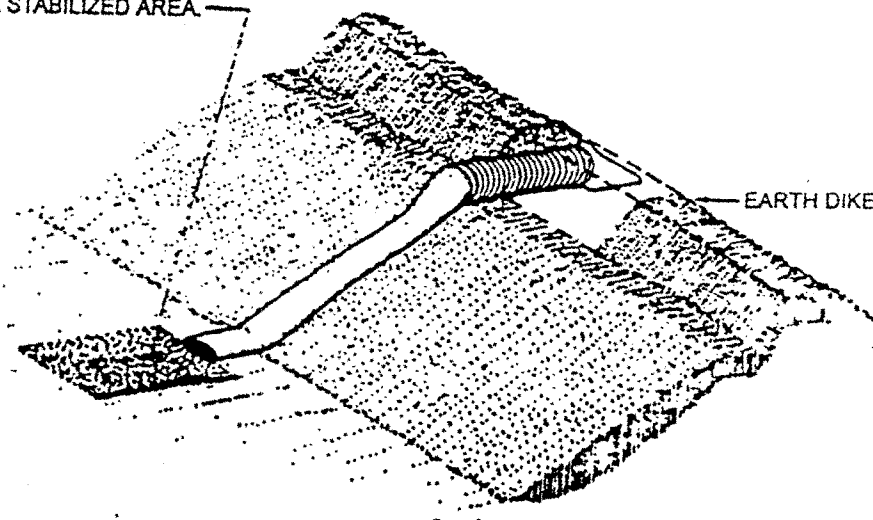
Other applicable BMPs are detailed in EPA's guidance manual *Storm Water Management for Industrial Activities - Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006, September 1992), or are those used as commonly accepted practice in the construction industry. All control measures will be properly selected, installed, and maintained in accordance with the manufacturer specifications and good engineering practice.

Work activities and/or placement and implementation of BMPs will be such that any known or encountered Listed species or their habitat will not be adversely affected by storm water flows.



**CROSS SECTION OF A PROPERLY INSTALLED
STRAW BALE BARRIER**

DISCHARGE INTO A
STABILIZED WATERCOURSE,
SEDIMENT TRAPPING DEVICE,
OR ONTO A STABILIZED AREA.



FLEXIBLE PIPE SLOPE DRAIN

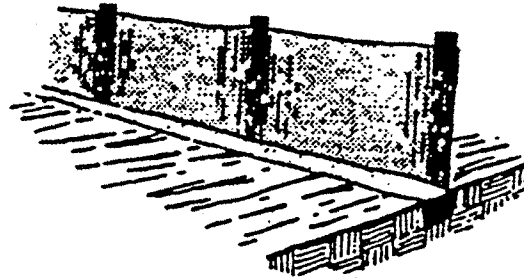
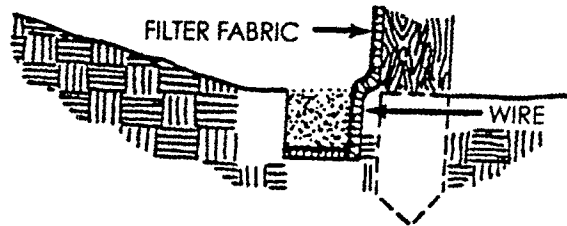
Figure 3 Erosion & Sediment Controls

Resource Consulting, LLC

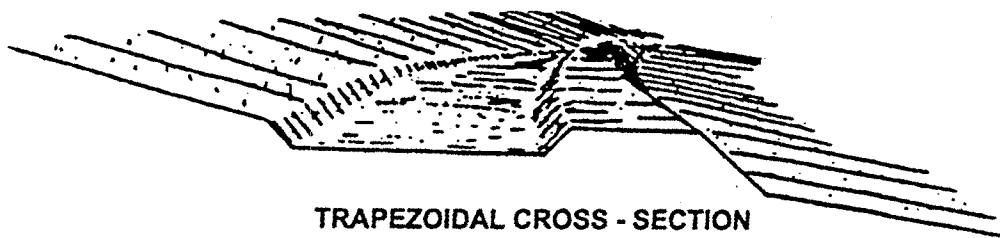
Civil Engineering
7602 GSRI Avenue, Suite 147
Baton Rouge, Louisiana 70820
ResourceConsulting@worldnet.att.net
(225)761-9909 Phone, (225) 769-7181 Fax

Drawn: RGG	Date: 01-27-99
Checked: RGG	Scale: NTS
Job No.: 991216	File: 991216fig

EXTENSION OF FABRIC
AND WIRE
INTO THE TRENCH



FILTER FENCE DETAILS



TRAPEZOIDAL CROSS - SECTION



PARABOLIC CROSS SECTION

TYPICAL INTERCEPTOR DIKES & SWALES

Figure 4
Erosion & Sediment Controls

Resource Consulting, LLC

Civil Engineering
7602 GSRI Avenue, Suite 147
Baton Rouge, Louisiana 70820
ResourceConsulting@worldnet.att.net
(225)761-9909 Phone, (225) 769-7181 Fax

Drawn: RGG	Date: 01-27-99
Checked: RGG	Scale: NTS
Job No.: 991216	File: 991216fig

2.1.2 Waste Disposal Controls

Waste Materials:

All construction waste materials (brush, paper, cloth, etc.) will be collected daily, stored in containers and disposed in an approved manner or at a state-approved disposal facility. The trash storage containers will meet all local and state solid waste management regulations. Containers will have secure, tight fitting lids and will be emptied as needed. All personnel participating in construction activities will be instructed on the procedure for waste disposal.

Hazardous Waste:

All hazardous waste will be transported, handled, stored, and used in strict accordance with local, state, federal regulations and manufacturers' recommendations.

Sanitary Waste:

All sanitary waste will be collected in portable units by a licensed contractor and will be disposed at a state approved facility in accordance with local and state regulations.

Off-Site Vehicle Tracking:

Excess mud, dirt, or rock tracked on the public roadways will be removed daily. Excavated material will not be removed from the site.

Exposure Minimization:

Vehicle positioning, drip pans, containment diking, and other appropriate BMP exposure minimization controls will be taken to preclude environmental impact of vehicle leakage, fueling operations, or minor maintenance. Major equipment maintenance will not be performed within the project area.

2.1.3 Posting

A notice will be posted near the main entrance to the construction site. Also, as most of the construction site will be linear, a notice will be placed in a publicly accessible location near where the construction is actively underway and will be moved as necessary. An example of the posting, to be completely filled out prior to posting, is included in Attachment 1. A copy of the signed SWPPP will be kept on-site.

2.2 Timing of Controls

Timing will be as stated in the sequence of major activities. All clearing, grubbing, and control measures for storm water runoff will be done contemporaneously with regrading and other construction activities.

3.0 MAINTENANCE AND INSPECTION PROCEDURES

A blank Notice of Intent (NOI) form is included as Attachment 2. This form is to be completed and submitted to the EPA; to the Storm Water Coordinator, Texas Natural Resources Conservation Commission; and to the local agency that approved the grading plans. The owner of the site is to submit the NOI prior to the commencement of construction. The completed form is to be inserted

as Attachment 2 and is thereafter considered to be a part of this storm water pollution prevention plan.

All pollution prevention measures and BMPs will be inspected before anticipated storm events and after such storm events to identify areas contributing to runoff and to evaluate whether their storm water pollution prevention plan measures for reducing pollutant loadings are adequate and properly implemented. The inspector will thoroughly understand the requirements of the SWPPP and have a basic knowledge of engineering aspects on controlling storm water and reducing runoff pollution.

Areas being regraded will be inspected for erosion and soil loss from the site. Discharge points will be inspected for signs of erosion or sediment associated with the discharge. Built up sediment will be removed when it has reached one-third the height of the siltation fence or straw bale. Locations where vehicles enter and leave the site will be checked for signs of off-site sediment tracking.

BMPs and pollution control maintenance procedures will be inspected for adequacy. Written documentation will be maintained for all implementation, maintenance, and inspection of BMPs and pollution control maintenance procedures, and the SWPPP will be revised as necessary during the construction period (Attachments 3, 4, and 5).

3.1 Inventory for SWPPP

The following materials have the potential to be onsite during the improvement of the roads and construction of vehicle barriers:

- Diesel Fuel
- Gasoline
- Oil
- Lubricants
- Hydraulic Fluid
- Transmission Fluid
- Marking Paint

3.2 Spill Prevention

3.2.1 Best Management Practices

The following management practices will be implemented to reduce the risk of spills and accidental exposure of materials and substances to storm water runoff:

- Good Housekeeping:
No fuel and/or maintenance materials will be stored on site. All fuel, fluids, oil and lubricants will be stored aboard designated and specially manufactured service vehicles and removed from the site after working hours.
- Hazardous Materials Storage:
All hazardous products will be stored in or aboard designated and specially manufactured service vehicles. The service vehicles will be present only during the time equipment is in operation and will be removed from the site after working hours.

Products will be kept in original sealed containers, and surplus materials will be removed daily after working hours.

3.2.2 Product Specific Practices

The following product-specific practices will be implemented:

- **Petroleum Products:**

All vehicles will be stored, repaired, and refueled off site. All vehicles will be monitored for leaks during regularly scheduled preventive maintenance actions. Petroleum products will be stored in designated and specially manufactured service vehicles. All products will be kept in original sealed containers during periods of use. All empty containers will be disposed in an approved manner.

Spill containment areas will be established at staging areas offsite, and all equipment will be refueled and repaired within the offsite staging areas. All spills will be promptly cleaned up and reported to applicable regulatory agencies. Equipment will be kept within the offsite spill containment sites to prevent spilled material from reaching and polluting drainage ways.

All personnel will be briefed on spill prevention, control, and clean-up procedures. Again, petroleum products will not be stored onsite.

4.0 CERTIFICATION OF COMPLIANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

The storm water pollution prevention plan was prepared in accordance with guidelines published in the Federal Register, Volume 63, Number 128, July 6, 1998 [63 Fed. Reg. 36489-36519]. After construction, an Environmental Protection Agency (EPA) storm water permit will not be required.

At that time, a Notice of Termination (NOT) for Industrial Activity (Attachment 6) will be completed and filed with the EPA.

ATTACHMENTS

Attachment #1 - Notification Posting

Attachment #2 - Notice of Intent (NOI) for Construction Activity

Attachment #3 - Inspection and Maintenance Report Form (Rainfall Event)

Attachment #4 - Inspection and Maintenance Report Form (Sediment Basin)

Attachment #5 - Inspection and Maintenance Report Form (Changes)

Attachment #6 - Notice of Termination (NOT) for Industrial Activity

ATTACHMENT #1
NOTIFICATION POSTING



EPA NPDES Storm Water Program



The following information is posted in compliance with Part IV.B.2. of the NPDES Region 6 Storm Water Construction General Permit [63 Fed. Reg. 36502]. All parties that either individually, or taken together, meet the definition of "operator," must be permitted. Each party should complete a separate form at the construction facility. Each of these parties must have separate and distinct NPDES permit numbers (e.g. a separate permit is typically needed for each Owner/Developer, General Contractor, and/or Builder). If you do not know your NPDES Permit Number, contact the NOI Processing Center at (301)495-4145. EPA's Region 6 storm water hotline phone number is (800)245-6510. If you have mailed your NOI application form and have not received a permit number, you must post a copy of the NOI application form next to this document until you receive your permit number. This form should be posted in a conspicuous place accessible by the public on or at the edge of the facility. This form was prepared as an example and it is not a required form for use with the permit. This information may be displayed in alternative form or formats within guidelines set forth in the permit. Additional information regarding the NPDES Region 6 storm water program may be found on the Internet at <http://www.epa.gov/region6/sw/>. Any person with a complaint about the operation of this facility in regards to this permit should contact EPA Region 6 at (214)665-7595.

Permit Number	
Contact Name	
Contact Phone	
Project Description	
SWPPP Location (Only necessary if the site is inactive or does not have an on-site location to store the plan.)	

ATTACHMENT #2

NOTICE OF INTENT (NOI) FOR CONSTRUCTION ACTIVITY

THIS FORM REPLACES PREVIOUS FORM 3510-6 (8-92)
See Reverse for Instructions

Form Approved. OMS No. 2040-0086
Approval expires: 8-31-00

NPDES
FORM



United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial
Activity Under a NPDES General Permit

Submission of this Notice of Intent constitutes notice that the party identified in Section II of this form intends to be authorized by a NPDES permit issued for storm water discharges associated with industrial activity in the State identified in Section III of this form. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Selection: You must indicate the NPDES Storm Water general permit under which you are applying for coverage. Check one of these.

Baseline
Industrial ☐

Baseline
Construction ☐

Multi-Sector
(Group Permit) ☐

II. Facility Operator Information

Name: _____ Phone: _____

Address: _____ Status of
Owner/Operator: ☐

City: _____ State: _____ ZIP Code: _____

III. Facility/Site Location Information

Name: _____

Is the facility located on
Indian Lands? (Y or N) ☐

Address: _____

City: _____ State: _____ ZIP Code: _____

Latitude: _____ Longitude: _____ Quarter: _____ Section: _____ Township: _____ Range: _____

IV. Site Activity Information

MS4 Operator Name: _____

Receiving Water Body: _____

If you are filing as a co-permittee,
enter storm water general permit number: _____

SIC or Designated
Activity Code: Primary: _____ 2nd: _____

Is the facility required to submit monitoring data? (1, 2, 3, or 4) ☐

If You Have Another Existing NPDES
Permit, Enter Permit Number: _____

Multi-Sector Permit Applicants Only:

Based on the instructions provided in Addendum H of the
Multi-Sector permit, are species identified in Addendum H
in proximity to the storm water discharges to be covered
under this permit, or the areas of BMP construction to
control those storm water discharges? ☐

Will construction (land disturbing activities) be conducted
for storm water controls? (Y or N) ☐

Is applicant subject to and in compliance with a written
historic preservation agreement? (Y or N) ☐

V. Additional Information Required for Construction Activities Only

Project Start Date: _____ Completion Date: _____

Estimated Area to be
Disturbed (in Acres): _____

Is the Storm Water Pollution Prevention Plan
in compliance with State and/or Local
sediment and erosion plans? (Y or N) ☐

VI. Certification: The certification statement in Box 1 applies to all applicants.
The certification statement in Box 2 applies only to facilities applying for the Multi-Sector storm water general permit.

BOX 1
ALL APPLICANTS:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BOX 2
MULTI-SECTOR STORM WATER GENERAL PERMIT APPLICANTS ONLY:

I certify under penalty of law that I have read and understand the Part I.B. eligibility requirements for coverage under the Multi-Sector storm water general permit, including those requirements relating to the protection of species identified in Addendum H.

To the best of my knowledge, the discharges covered under this permit, and construction of BMPs to control storm water run-off, are not likely to and will not likely adversely affect any species identified in Addendum H of the Multi-Sector storm water general permit or are otherwise eligible for coverage due to previous authorization under the Endangered Species Act.

To the best of my knowledge, I further certify that such discharges, and construction of BMPs to control storm water run-off, do not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage due to a previous agreement under the National Historic Preservation Act.

I understand that continued coverage under the Multi-Sector general permit is contingent upon maintaining eligibility as provided for in Part I.B.

Print Name: _____

Date: _____

Signature: _____

Instructions - EPA Form 3510-6
Notice Of Intent (NOI) For Storm Water Discharges Associated With Industrial Activity
To Be Covered Under a NPDES General Permit

Who Must File A Notice Of Intent (NOI) Form

Federal law at 40 CFR Part 122 prohibits point source discharges of storm water associated with industrial activity to a water body(ies) of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. The operator of an industrial activity that has such a storm water discharge must submit a NOI to obtain coverage under a NPDES Storm Water General Permit. If you have questions about whether you need a permit under the NPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a state agency, telephone or write to the Notice of Intent Processing Center at (703) 931-3230.

Where To File NOI Form

NOIs must be sent to the following address: Storm Water Notice of Intent (4203)
401 M Street, S.W.
Washington, DC 20460

Completing The Form

You must type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, call the Notice of Intent Processing Center at (703) 931-3230.

Section I Permit Selection

You must indicate the NPDES storm water general permit under which you are applying for coverage. Check one box only. The Baseline Industrial and Baseline Construction permits were issued in September 1992. The Multi-Sector Permit became effective October 1, 1995.

Section II Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the name of the facility. The responsible party is the legal entity that controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Enter the appropriate letter to indicate the legal status of the operator of the facility:
F = Federal; S = State; M = Public (other than federal or state); P = Private.

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete street address, including city, state, and ZIP code. Do not provide a P.O. Box number as the street address. If applying for a Baseline Permit and the facility or site lacks a street address, indicate the state and either the latitude and longitude of the facility to the nearest 15 seconds of the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site. If applying for the Multi-Sector Permit indicate the complete street address and either the latitude and longitude of the facility to the nearest 15 seconds of the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site.

All applicants must indicate whether the facility is located on Indian lands.

Section IV Site Activity Information

If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., municipality name, county name) and the receiving water of the discharge from the MS4. (A MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, borough, county, parish, district, association, or other public body which is designed or used for collecting or conveying storm water.)

If the facility discharges storm water directly to receiving water(s), enter the name of the receiving water(s).

If you are filing as a co-permittee and a storm water general permit number has been issued, enter that number in the space provided.

Indicate the monitoring status of the facility. Refer to the permit for information on monitoring requirements. Indicate the monitoring status by entering one of the following:

- 1 = Not subject to monitoring requirements under the conditions of the permit.
- 2 = Subject to monitoring requirements and required to submit data.
- 3 = Subject to monitoring requirements but not required to submit data.
- 4 = Subject to monitoring requirements but submitting certification for monitoring exclusion.

List, in descending order of significance, up to two 4-digit standard industrial classification (SIC) codes that best describe the principal products or services provided at the facility or site identified in Section III of this application. If you are applying for coverage under the construction general permit, enter "CO" (which represents SIC codes 1500 - 1799).

For industrial activities defined in 40 CFR 122.26(b)(14)(i)-(xi) that do not have SIC codes that accurately describe the principal products produced or services provided, use the following 2-character codes.

- HZ = Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA [40 CFR 122.26 (b)(14)(iv)];
- LF = Landfills, land application sites, and open dumps that receive or have received any industrial wastes, including those that are subject to regulation under subtitle D of RCRA [40 CFR 122.26 (b)(14)(v)];
- SE = Steam electric power generating facilities, including coal handling sites [40 CFR 122.26 (b)(14)(vi)];
- TW = Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage [40 CFR 122.26 (b)(14)(ix)]; or,
- CO = Construction activities [40 CFR 122.26 (b)(14)(x)].

If there is another NPDES permit presently issued for the facility or site listed in Section III, enter the permit number. If an application for the facility has been submitted but no permit number has been assigned, enter the application number.

Facilities applying for coverage under the Multi-Sector storm water general permit must answer the last three questions in Section IV. Refer to Addendum H of the Multi-Sector general permit for a list of species that are either proposed or listed as threatened or endangered. "BMP" means "Best Management Practices" that are used to control storm water discharges.

Indicate whether any construction will be conducted to install or develop storm water runoff controls.

Section V Additional Information Required for Construction Activities Only

Construction activities must complete Section V in addition to Sections I through IV. Only construction activities need to complete Section V.

Enter the project start date and the estimated completion date for the entire development plan.

Provide an estimate of the total number of acres of the site on which soil will be disturbed (round to the nearest acre).

Indicate whether the storm water pollution prevention plan for the site is in compliance with approved state and/or local sediment and erosion plans, permits, or storm water management plans.

Section VI Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

ATTACHMENT #3

INSPECTION AND MAINTENANCE REPORT FORM (RAINFALL EVENT)

**STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM**

TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF
A RAINFALL EVENT OF 0.5 INCHES OR MORE

INSPECTOR: _____ DATE: _____

INSPECTOR'S QUALIFICATIONS:

DAYS SINCE LAST RAINFALL: _____ AMOUNT OF LAST RAINFALL _____ INCHES

STABILIZATION MEASURES

AREA	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED? (YES/NO)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

ATTACHMENT #4

INSPECTION AND MAINTENANCE REPORT FORM (SEDIMENT BASIN)

**STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM**

SEDIMENT BASIN:

DEPTH OF SEDIMENT IN BASIN	CONDITION OF BASIN SIDE SLOPES	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT?	CONDITION OF OUTFALL FROM SEDIMENT BASIN

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

OTHER CONTROLS

STABILIZED CONSTRUCTION ENTRANCE:

DOES MUCH SEDIMENT GET TRACKED ON TO ROAD?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE?	IS THE CULVERT BENEATH THE ENTRANCE WORKING?

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

ATTACHMENT #5

INSPECTION AND MAINTENANCE REPORT FORM (CHANGES)

**STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM**

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

REASONS FOR CHANGES:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE: _____ **DATE:** _____

ATTACHMENT #6

NOTICE OF TERMINATION (NOT) FOR INDUSTRIAL ACTIVITY

THIS FORM REPLACES PREVIOUS FORM 3510-7 (8-92)

Form Approved. OMB No. 2040-0088

Please See Instructions Before Completing This Form

Approval expires: 8-31-04

NPDES
FORMUnited States Environmental Protection Agency
Washington, DC 20460Notice of Termination (NOT) of Coverage Under a NPDES General Permit for
Storm Water Discharges Associated with Industrial Activity

Submission of this Notice of Termination constitutes notice that the party identified in Section II of this form is no longer authorized to discharge storm water associated with industrial activity under the NPDES program. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

I. Permit Information

NPDES Storm Water
General Permit Number: _____Check Here if You are No Longer
the Operator of the Facility: ☐Check Here if the Storm Water
Discharge is Being Terminated: ☐

II. Facility Operator Information

Name: _____ Phone: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

III. Facility/Site Location Information

Name: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Latitude: _____ Longitude: _____ Quarter: _____ Section: _____ Township: _____ Range: _____

IV. Certification: I certify under penalty of law that all storm water discharges associated with industrial activity from the identified facility that are authorized by a NPDES general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

Print Name: _____

Date: _____

Signature: _____

Instructions for Completing Notice of Termination (NOT) Form

Who May File a Notice of Termination (NOT) Form

Permittees who are presently covered under an EPA-issued National Pollutant Discharge Elimination System (NPDES) General Permit (including the 1995 Multi-Sector Permit) for Storm Water Discharges Associated with Industrial Activity may submit a Notice of Termination (NOT) form when their facilities no longer have any storm water discharges associated with industrial activity as defined in the storm water regulations at 40 CFR 122.26(b)(14), or when they are no longer the operator of the facilities.

For construction activities, elimination of all storm water discharges associated with industrial activity occurs when disturbed soils at the construction site have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with industrial activity from the construction site that are authorized by a NPDES general permit have otherwise been eliminated. Final stabilization means that all soil-disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

Where to File NOT Form

Send this form to the following address:

Storm Water Notice of Termination (4203)
401 M Street, S.W.
Washington, DC 20460

Completing the Form

Type or print, using upper-case letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, telephone or write the Notice of Intent Processing Center at (703) 931-3230.

Instructions - EPA Form 3510-7
Notice of Termination (NOT) of Coverage Under The NPDES General Permit
for Storm Water Discharges Associated With Industrial Activity

Section I Permit Information

Enter the existing NPDES Storm Water General Permit number assigned to the facility or site identified in Section III. If you do not know the permit number, telephone or write your EPA Regional storm water contact person.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box:

If there has been a change of operator and you are no longer the operator of the facility or site identified in Section III, check the corresponding box.

If all storm water discharges at the facility or site identified in Section III have been terminated, check the corresponding box.

Section II Facility Operator Information

Give the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Section III Facility/Site Location Information

Enter the facility's or site's official or legal name and complete address, including city, state and ZIP code. If the facility lacks a street address, indicate the state, the latitude and longitude of the facility to the nearest 15 seconds, or the quarter, section, township, and range (to the nearest quarter section) of the approximate center of the site.

Section IV Certification

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, State, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

APPENDIX B PHOTOGRAPHS



Photograph 1. Representative view of vegetation near Brownsville



Photograph 2. Representative view of vegetation and parallel road and unimproved ramp



Photograph 3. Representative view of vegetation along the Matamoras Banco drag road



Photograph 4. Representative view of vegetation along the USIBWC Flood Control Levee



Photograph 5. Dense vegetation along the Soledad Banco access road



Photograph 6. Waters of the U.S. near proposed pad site by River Bend Golf Community



Photograph 7. Typical mitigation area east of B&M bridge

APPENDIX C

CORRESPONDENCE



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

February 10, 2000

Linda Ashe
USACE, Fort Worth District
819 Taylor Street, Room 3A14
Fort Worth, Texas 76102

Consultation No. 2-11-2000-F-078c

Dear Ms. Ashe:

The Fish and Wildlife Service has reviewed the January 2000 Preliminary Draft Report entitled "Environmental Assessment for the Proposed JTF-6 Levee Road Maintenance and Repair-Brownsville, Texas." Responding to your telephonic request, and that of William Fickel, Jr. in his February 2, 2000 letter, the Service provides the following comments on that document.

The road improvements which constitute the proposed action considered in the draft EA have previously been discussed with the Service prior to and during an ongoing formal consultation, conducted in accordance with Section 7 of the Endangered Species Act, regarding the effects of Operation Rio Grande on the endangered ocelot and jaguarundi (cats). The draft EA does not mention the relationship of the proposed road improvements to ORG, nor consider the cumulative effects of those improvements along with the effects of ORG's other proposed actions. Under the heading of Cumulative Impacts, there is a reference on p. 46 of the draft EA to the 1994 Joint Task Force-Six Programmatic Environmental Impact Statement about previous actions, but not to the EIS the Immigration and Naturalization Service announced that it intends to prepare for ORG in the Federal Register on February 2, 2000. The draft EA should refer to the ORG EIS and address which of the proposed actions are interrelated, interdependent, and/or have cumulative effects; otherwise, the draft EA would continue to give the appearance of segmenting the environmental documentation process.

Another concern is that the draft EA states one effect of the proposed road improvements would be to allow safer and quicker responses by the U. S. Border Patrol to the sites of illegal activities (See Section 2.1; p. 13). Since most of these quicker responses would occur at night, the Service believes this project could increase the likelihood of roadkill of the endangered cats and other fauna. The Service recommends that the draft EA reflect this source of potential adverse impact (e.g., at Section 4.3.4.1 on 42), and, where such impact cannot be avoided, include plans for the selective placement of cat culverts and fences to minimize roadkill. For example, these steps might be taken at the site of the proposed 0.2 - mile road improvement segment through the



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

February 17, 2000

William Fickel, Jr.
Chief, Environmental Division
USACE, Fort Worth District
P.O. Box 17300
Fort Worth, TX 76102-0300
Attn: Linda Ashe, Room 3A14

Consultation No.2-11-2000-F-078d

Dear Mr. Fickel:

This responds to your February 15, 2000 letter requesting written clarification regarding the Fish and Wildlife Service's (Service) comments on the January 2000 Preliminary Draft Report entitled "Environmental Assessment for the Proposed JTF-6 Levee Road Maintenance and Repair, Brownsville, Texas" (EA). These comments were provided by the Service's letter dated February 10, 2000 and were the subject of a teleconference held February 14, 2000 among representatives of the Service, Joint Task Force Six, U.S. Army Corps of Engineers (USACE) and Gulf South Research Corporation.

In regard to the Service's comments about potential indirect adverse consequences to endangered cats and other fauna from the proposed road improvements, you understand correctly that the Service is not aware that U.S. Border Patrol (USBP) operations in the project area have resulted in roadkills. The comment was an observation that, because the proposed road improvements would facilitate quicker nighttime vehicular access adjacent to and across the endangered cat travel corridor established within the Rio Grande floodway by the Service and the U.S. International Boundary and Water Commission, the EA should address this issue and the means to avoid roadkills of the cats, (i.e., by the placement of cat culverts and fences). The Service plans to recommend installing culverts and fences for the USBP's existing roads, and found it timely to make the recommendation while environmental planning for the proposed improvements was still under way. The Service routinely recommends to the Texas Department of Transportation and the Federal Highway Administration that cat culverts and fences be installed wherever they plan to build, repair or improve roads that intersect known or suspected cat travel paths. In many cases, the Service has recommended these installations even where no roadkills have been recorded. Because vehicle strikes are the most significant known cause of endangered cat mortality in South Texas, and because of the perilous statuses of these cats' populations, the Service feels justified in asking that all roads be made "cat-friendly," not just those where mortalities have already occurred. It was not the intent



INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

FEB 25 2000

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

Ms. Linda Ashe
USACE, Fort Worth District
819 Taylor Street, Room 3A14
Fort Worth, Texas 76102

Dear Ms. Ashe:

Thank you for the opportunity to review the Preliminary Draft Report "Environmental Assessment for the Proposed ITF-6 Levee Road Maintenance and Repair Brownsville, Texas." The following represents comments by the US Section of the International Boundary and Water Commission (USIBWC).

- Signature Page, first paragraph, fourth line: The actual length of USIBWC levee proposed for maintenance and repair is about 9 miles; about 2 additional miles identified in the ~~Figures~~ are part of the Amigoland levee.
- Page 2, last paragraph, ninth line: DLEA should be DEA. *ND*
- Page 3, paragraph 1.2, last line: need to correct USIBWC levee length to about 9 miles.
- Page 8, paragraph 2.1, first paragraph, fourth line: Levee crest width is 16 feet, not 10 feet.
- Page 8, Add the following to the first paragraph: "The levees will be graded to eliminate potholes, fill erosions sites, and washouts and restored to their original design elevations per USIBWC specifications. The levee roads will then be resurfaced with crushed caliche to provide all-weather driving conditions."
- Page 8, second paragraph: It is mentioned that the levee roads are used by local citizens. It should be noted that the levee roads are not public roadways.
- ~~Figure 4:~~ The levee south of Morales Banco No 133 does not belong to the USIBWC nor does the levee downstream of the B&M Bridge. Part of these levees are a portion of the Amigoland levee under the ownership of the City of Brownsville.
- ~~Page 13/~~ There should be no fill placed inside the floodplain without express written approval by the USIBWC. All plans to work on the levee or in the floodplain should be submitted to the USIBWC and approved before any work commences.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

April 17, 2000

Linda Ashe
U.S. Army Corps of Engineers
Fort Worth District
P.O. Box 17300
Fort Worth, TX 76102-0300

Dear Ms. Ashe:

As requested in a February 22, 2000 letter from Chris Ingram of Gulf South Research Corporation, the Fish and Wildlife Service has reviewed the February 2000 Draft Report - Environmental Assessment for the Proposed JTF-6 Levee Road Maintenance and Repair - Brownsville, Texas. The Service had previously reviewed an advance draft of this document and provided both written and telephone comments about the advance draft and the proposed road improvements. The Service finds the February Draft EA has addressed its previous comments favorably and has no additional comments to make at this time. We thank you for the opportunity to participate in the project planning and analysis process.

Sincerely,

THOMAS D. SEROTA
Field Supervisor

cc: Chris Ingram, Vice President, GSRC, P.O. Box 83564, Baton Rouge, LA 70844-3564
Stephen Labuda, LRGVNR, Rio Hondo, TX
Ernesto Reyes, ES Alamo, TX
David Dall, NEPA Coordinator, FWS RO, Albuquerque, NM